

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 325. -Vol. XI.]

LONDON: SATURDAY, NOVEMBER 13, 1841.

[PRICE 6D.

MINES AND MATERIALS IN IRELAND FOR SALE.
TO BE SOLD, BY AUCTION, by the board of directors of the MINING COMPANY OF IRELAND, on Tuesday, 7th December, at Derrygonnagh Mines, near Keady, county Armagh, a steam pumping-engine, cylinder 30 in. diameter, stroke 8 feet, cylindrical boiler, with tube, weight 10 tons, cast-iron connecting-rods, and 40 fathoms of pit-work complete, with other materials for mining purposes. Also, the leases of the mines extending over sixteen townlands, held at a nominal rent of £40 3s. 1d. per annum, under his Grace the Lord Primate—a most liberal landlord. Also, the lease and goodwill of the mines within twenty-eight townlands of the estate of Trinity College, adjoining the above, upon which the company has expended a considerable sum in opening ground and erecting machinery.
For further particulars apply to the resident agent, Mr. William Petherick, or to the undersigned.
Dublin, Nov. 4.
By order, RICHARD PURDY, Secretary.

VALUABLE SODA AND ALKALI MANUFACTORY.
TO BE SOLD, BY AUCTION, at Twelve o'clock for One, on Monday, the 24th day of December, at the Queen's Head Inn, Newcastle-upon-Tyne, a valuable and extensive SODA and ALKALI MANUFACTORY, situated at Friar's Goose, within two miles of Newcastle, with ample river frontage, as lately occupied by Mr. A. Clapham. The premises are held by lease, under the Master and Brethren of King James's Hospital, for long terms of years, at moderate ground rents; and the whole of the Machinery and Implements attached to the manufactory will be sold therewith, and immediate possession given.
The manufactory may be viewed, and further particulars known, on application to Mr. George Burdiss, Royal Arcade, Newcastle.

IRON-WORKS FOR SALE.
TO BE SOLD, BY PRIVATE CONTRACT, the VICTORIA
IRON-WORKS, in the county of Monmouth, with the valuable MINERAL PROPERTY thereto belonging. The works consist of four blast furnaces and rolling-mills, capable of making 250 tons of bar-iron weekly. Full particulars may be obtained on application to the directors of the Monmouthshire Iron and Coal Company, Harrington-place, Bath. Dated November 2.

STEAM-ENGINE FOR SALE.
TO BE SOLD, BY PRIVATE CONTRACT, at the NORTH
WHEAL ALFRED MINES, near Hayle, Cornwall, a 6-inch cylinder STEAM PUMPING ENGINE, with three boilers complete. This engine has been at work about three years, and is considered one of the most beautiful and efficient pieces of machinery ever manufactured by Messrs. Smeath, Curne, and Vivian, on whose land it is now erected. The stroke in cylinder is 9 feet, and in shaft 8 feet, the well-work is of brass. Applications to be made to the purchaser, Mr. William Vawdrey, at the above mine; and any further particulars may be known by applying to the engineer, Mr. Samuel Grose, Guinear, Cornwall.

TO ENGINEERS, MACHINE MAKERS, OR CAPITALISTS.
TO BE SOLD, BY PRIVATE CONTRACT, a FOUNDRY,
FORGE, ENGINE, and BOILER MANUFACTORY, situated in a mining district of great importance. This concern is now in full operation, and will be sold with immediate possession, if desired. The purchaser will obtain the goodwill, and a steady demand, at a fair price for certain work required by the present owners. The premises, machinery, and the tools are nearly new, and in perfect order. The power required is given by a considerable stream of water, which, together with the land, buildings, offices, and a dwelling-house, are held at a very moderate rent, upon a lease of which thirty-eight years are still unexpired. Coal and iron abound in the immediate neighbourhood, and the costs of both, as well as of manual labour, are low. The whole concern will be disposed of upon very moderate terms, and is well deserving of the attention of engineers or capitalists disposed to embark in a compact and well-established business of this kind.
Further particulars may be obtained upon application to Mr. John Taylor, 2, Duke-street, Adelphi, London; or to Mr. John Taylor, jun., Coed dw, Mold, Flintshire.—November 4.

FOREST OF DEAN.—PARK END COLLIERIES AND IRON-WORKS, and NEW
FANCY COLLIERY, the property of Edward Protheroe, Esq.

TO BE SOLD, BY PRIVATE CONTRACT, the PARK END
COAL-WORKS, which have been long known as the most important and productive in the Forest of Dean, and, in consequence of the advanced age of the proprietor, are now offered for sale, the legal title having just been made clear under the provisions of a late Act of Parliament, and an increased quantity of coal awarded to the property. These works are situated close to the Severn and Wyre Railway, which affords a direct conveyance to both those rivers, and the various canals and railways connected with them, and more particularly to the manufacturing district of Gloucestershire, and the great markets of Gloucester, Cheltenham, Oxford, Bristol, Bridgewater, and Cork. The inspection of any geological or mining map of England, will at once show that the central position of the coal field of the Forest of Dean naturally commands the supply of a very large portion of the western counties of England. The acknowledged superiority of the coal is yearly increasing the demand, and the present large sale must be greatly extended when the important railways now in progress, and the local improvements contemplated, shall be completed. The coal is sold under the Dean Forest Mining Act divided into three portions.

1.—THE PARK END COLLIERY, comprising the Park End Main, Park End Royal, Ivy Moorhead, Birkley Well, and Brookfield Ditches Pits (worked by seven steam engines) in six veins of coal, of which nearly 4,500,000 tons are calculated to be now unworked. Even in the last year, about 5,000 tons were sold from this colliery, which has an advantageous contract for supplying the Park End Iron Furnaces with coal. The purchaser of the Park End Colliery will have the great advantage of commencing business immediately without any outlay, and with houses or agent, manager, and workmen, powerful steam engines, in the best order, pit and railway waggons and horses, and the whole plant, stock, and accommodations of the mining and trading concerns, together with formed connections in an established business.

2.—THE INDEPENDENT LEVEL, a small detached colliery, in three veins, now in work, and capable of yielding about 1,200 tons a year.

3.—THE NEW FANCY COLLIERY, with three pits, now in progress of opening, new engine, and various useful buildings. This important work is situated in the very best part of the coal field, and has the peculiar advantage of being easily made to communicate with either of the present railways, or a central line. It contains about 600 acres of untouched coal, in six veins, and will be confessedly the largest and finest colliery in the forest.

The whole of the above collieries are freehold, and pay a royalty of 2d. per ton on the coal as worked, or very low dead rents; any spirited individual or company taking the whole, would obtain an almost unlimited trade and power of supply, but either of the works would be sold separately. Liberal accommodation in payment by instalments, if desired, will be afforded.

THE PARK END IRON FURNACES AND WORKS, with very extensive and valuable IRON MINES, are also offered for sale. They are let to the Forest of Dean Iron Company for a term, of which twenty-six years will be unexpired on the 25th of March next, at the rent of £250 per annum, but as nearly £200,000 have been expended in forming these works, and almost unexampled success has attended the making of iron both in quantity and quality, the reversionary value of the property must be very great.

To treat for the whole or any part of these properties, apply to Mr. Thomas Nicholson, Sydney, agent to the proprietor; or to Messrs. James and Son, solicitors, Newnham, or Messrs. Thoms and Co., solicitors, Coleman-street, London. If desired, a personal conference may be had with the proprietor, at Hill-house, Newnham.

TO BE SOLD, TWO THOUSAND SHARES IN ROSEWELL HILL
MINE, in the county of Cornwall; the lodes of St. Ives Consols Mine, which are well known to have been very productive, and are still paying the adventurers large profits, run through Rosewell Hill Mine; Wheel Rest Mine, which has been highly productive with St. Ives Consols, is also in the immediate vicinity. The Rosewell Hill Mine, on which ample machinery, on the most approved principle, has been recently erected, is sunk to a sixty fathom level below the deep adit, and is now in full course of working, with every prospect of success.
For particulars, apply to Mr. William Bawden, 2, Bank-chambers, London.

TO CAPITALISTS, ENGINEERS, MILLWRIGHTS, FOUNDRERS, SMITHS,
and others.

TO BE DISPOSED OF, an old-established ENGINEER'S,
MILLWRIGHT'S, and FOUNDRY CONCERN (the present proprietors residing from the manufacturing department) situated in London; the premises and plant have been erected during the last twenty-five years at a considerable cost, but from the above cause will be disposed of upon extremely favourable terms. The premises will be let on lease, and the machinery and tools disposed of at a valuation. Apply, for full particulars, to John Evans, Esq., 37, Lincoln's Inn Fields.

THE THAMES TUNNEL is Open every day (except Sunday)
from Nine in the morning until Six in the evening, and is brilliantly lighted with gas. The entrance at present is on the Surrey side of the River, close to Rotherhithe Church. That portion of the Tunnel, forming a junction with the shaft at Wapping, is now in progress towards completion. Admittance, One Shilling each.
By order, J. CHARLES, Clerk to the Company.
Company's Office, Wapping, London, E.C.

ROYAL GEOLOGICAL SOCIETY OF CORNWALL.—At a Meeting of the council of the society, held on Wednesday, the 27th October, 1841, it was resolved—
That a premium of £1 be offered to the miners for every communication to the society, containing the particulars of new, uncommon, or important facts connected with mining operations, illustrated by specimens, as far as may be practicable; the communication to be authenticated by one of the principal agents of the mine.
The value and importance of the communications will be decided by the council, who will have the power to increase the premium in cases which shall appear to them to merit it.
That a printed communication of these resolutions be sent to the agents of all the mines, with a request that they will make them generally known, and will second the views of the society by their own efforts.
By order of the council, L. R. WILLAN, S. FIDWELL, jun., Secretaries.

COMBIMARTIN AND NORTH DEVON LEAD AND SILVER
MINES.—At a Meeting of the directors in the above concern, held at Combimartin, the 24th day of November, 1841, it was resolved—That a DIVIDEND be this day declared of ONE POUND per share on shares held in the above company, payable at the West of England and South Wales District Bank, Barnstaple, Devon, on Friday, the 24th day of December next, and the three following Fridays.
That all claimants be required to produce or transmit their scrips to the secretary of the company at the time of application for the dividend.—That new scrips shall be issued, and the dividend paid to each party only as shall have fully complied with the regulations of the company.
W. NEWTON, Sec.

HIBERNIAN MINING COMPANY.—An ADJOURNED
MEETING of the Hibernian Mining Company will be held at No. 52, Lower Bismick-street, Dublin, on Friday, the 15th November inst., to consider the best mode for carrying into effect the projected improvement in the harbour of Arklow.
Dated November 5.
By order, J. C. MURPHY, Secretary.

RHYMNEY IRON COMPANY.—THE ANNUAL MEETING
of the proprietors of the Rhymer Iron Company will be held at the company's office, 7, Laurence Pountney-hill, at One o'clock precisely, on Wednesday, the 17th inst., as fixed by the deed, when the accounts for the year ending the 20th of June last will be laid before the proprietors. Such shareholders as have not signed the Deed of Settlement are not entitled to attend the meeting.
November 6.
JOHN PETHERICK, Secretary.

ST. JOHN DEL REY MINING COMPANY.—Notice is
hereby given, that the directors have made a CALL of TEN SHILLINGS per share on the shares in this company, and that the same is to be paid on the 15th day of November instant, to Messrs. Barclay, Bevan, Tritton, and Co., for amount of the directors.—It is provided for in the prospectus, that in the event of those payments not being made within fifteen days after the same shall become due, the directors shall, at the first convenient opportunity, sell the shares so in default, and shall the proceeds thereof (after deducting the amount of the instalment due thereon, and interest at the rate of 5 per cent. per annum) at the disposal of the proprietors thereof.
A. Tuckenhouse, yard, Lothbury, Nov. 9.
The bankers' receipt is to be brought to this office, with the certificates of the shares, to have the payment endorsed thereon.

IRISH WASTE LAND IMPROVEMENT SOCIETY.—Third
Call of £2 per share.—Notice is hereby given, that the directors have, under the powers of the Act of Incorporation, made a THIRD CALL on the proprietors of £2 in respect of each share in the said society, and that the said call is required to be paid to some one of the undermentioned banks, on account of the society, by two instalments of £1 each, the first of such instalments on or before the 10th of January, 1842, and the second on or before the 10th of April, 1842.—
London: The London Joint-Stock Bank, Princes-street, or 49, Pall-mall.
Bristol: The National Bank, Dublin, or any of its branches.
By order of the directors, JOHN WILKINSON, Sec.
57, Old Broad-street, London, Nov. 11, 1841.

MARGARY'S PATENT IS THE CHEAPEST AND BEST
FOR THE PRESERVATION OF TIMBER, CANVAS, &c., FROM DRY-ROT, MILDWE, AND DECAY.—This patent is used by her Majesty's Board of Ordnance, by Messrs. Brunel, Locke, and other celebrated engineers, and by noblemen and gentlemen on their estates. It has been extensively used for railroads in England, and is now employed in France for the Paris and Rouen line. The material used is not a lb.; it repels the attacks of insects, and neither the white ants in India, nor the teredo navalis, so destructive in the Liverpool dock, will touch any substance so prepared.
Prospectuses and specimens to be seen at Mr. Margary's office, Quality-court, Chancery-lane.

THE PATENT SAFETY FUSE.
FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to its usefulness with which the Manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c., &c.:—
"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the safety fuse, and I am quite willing that you should employ my name as evidence of this."
Manufactured and sold by the Patentees, RICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

PARISIAN BITUMEN COMPANY, Millwall, Poplar.—The
directors of the above-named company beg to call the attention of engineers, architects, surveyors, builders, and the public generally, to the applicability of the BITUMEN manufactured by them, as a pavement or flooring; also for its use in covering arches for the prevention of damp and preservation of the masonry. They beg also to state that the same has been used very successfully as a cement for masonry on the walls of the Upper Medway, and is particularly applicable to hydraulic works and foundations of heavy buildings. They beg to submit the following list of prices, and to state that they will guarantee the durability and efficiency of any work executed by them:—
Covering vaults or arches of bridges, vaults, terraces, &c., 1 1/2 inch thick, s. d.
Paving pavements, 4 0
Paving yards, 3 0
Paving paths, 2 0
Paving stairs, 1 0
Paving roofs, 1 0
Paving floors, 1 0
Paving walls, &c., 1 0
The above charges are exclusive of the cost of carriage, which must be borne by the parties by whom the work is required.
W. MACKENZIE, Superintendent.

COMBUSTION OF COAL, CHEMICALLY & PRACTICALLY
CONSIDERED. With coloured plates.
By CHARLES WYLLIE WILLIAMS, Esq.
London: Simpkin, Marshall, & Co., and J. Wreale; Birmingham: Wrightson & Webb.
TO GAS AND RAILWAY COMPANIES, ENGINEERS, &c.
PECKSTON'S PRACTICAL TREATISE ON GAS-LIGHTING
&c., &c., illustrated by twenty-two plates, 16 edition, greatly enlarged, and carefully corrected and adapted to the present improved state of the Manufacture of Gas. Two, extra cloth, 10s.
London: Herbert, 65, Chancery-lane.

NEW MECHANIC'S MAGAZINE.
To be published this day (Saturday, 13th Nov.) and delivered in the principal towns all over the country on the 15th or 16th, No. 11, of a new periodical, entitled
THE PRACTICAL MECHANIC'S AND ENGINEER'S MAGAZINE, being a Compendium of the Physical Sciences, General Literature, and Journal of the Progress of Inventions and Improvements. The six parts treated continuously will be natural philosophy, chemistry, mathematics, anatomy, physiology, geology, civil history, biography; also articles on political and moral economy, literature, and the various improvements in arts and manufactures; practical treatises will occasionally be given on the various trades and manufactures; and the whole illustrated with numerous plates. Each Number will contain forty pages long, including 14 broad, and 16 smaller type, price eightpence.
Published in Glasgow at the office, 41, Nelson-street; in London, by Herbert, 65, Chancery-lane; and sold by all booksellers.

THE INVENTOR'S ADVOCATE, AND JOURNAL OF
INDUSTRY: A WEEKLY BRITISH AND FOREIGN MISCELLANY OF SCIENCE, INVENTION, MANUFACTURE, AND ARTS, is the most useful and comprehensive work of the kind published. It contains the scientific intelligence of the week; current information on railways and steam navigation; list of patents granted and expired; specifications and descriptions of new inventions; reports of scientific meetings, and original papers on manufactures and the arts; with a variety of information interesting to traders and politicians. It is not only a journal of interest for the day, but forms a standard work of reference, valuable to persons engaged in scientific, manufacturing, and commercial pursuits. Vols. 1, 2, 3, &c., and ready bound, are already published, and the 10th Vol. is now in course of publication.
The *Inventor's Advocate*, price 10s. per annum, postage free, is published weekly, by the proprietors, at the patent office, No. 126, Strand, London.

THE EARTH—ITS ORIGINAL CONDITION AND ANTIQUITY.

Railway excursions are no way adapted for geological observation, and but little can be learned from the deck of a steamboat. If you wish to understand the structure of the earth, you must take your hammer in your hand, and peregrinate through the breadth and length of the land; ascend the hill, dive into the ravine, descend the mine, explore the river, and investigate the shore. Unless you can undergo this fatigue for the sake of truth, and the acquirement of knowledge, geology will never completely open up her treasures to your understanding; read, and speculate, and wonder you may, but unless you are a working man, you can never be a practical geologist. But though all are not capable of undertaking this laborious task, and still fewer have time, truth is not to be hid from their understandings, and the general deductions of geological investigation may be made known. This science of late years has engaged no small share of public attention; and why so? because, more than any other science, it effects a revolution in our mode of thinking, concerning the origin of the earth and the progress of Nature—discloses the secrets of a vast antiquity—unfolds the outgoings of the ancient days, and the successive operations of His hand, even when the foundations of the earth were being laid, and through a long succession of epochs of indefinite duration.

Accustomed to consider the whole of Nature as having sprung out of nothing at the Divine command in the course of a few days—and erroneously deeming this belief as essentially connected with the fundamental articles of the Christian faith—it is little wonder when Hutton announced to the world that the earth afforded no trace of a commencement, nor any prospect of an end, that he was assailed as an infidel. But time effects changes in the moral as well as the physical world, and such a belief is now considered no way obnoxious to a true interpretation of the sacred text; some of our divines are amongst our most celebrated geologists, and the vast antiquity of the earth has become as fully accredited by churchmen as it had formed a subject of distinct revelation. A few cavillers are still to be found, but not amongst the enlightened and the liberal portion of the Christian community; it is only among those who, assuming their preconceptions to be true, and their interpretations of Scripture right, peril the credibility of their faith before the stubborn evidence of fact. The vast antiquity of our globe is now as fully demonstrated as its rotundity; and the lapse of ages which must have occurred in the completion of a geological epoch, as evident as the distance of the heavenly spheres; indeed more so—because the one can be proven to any person in the slightest degree conversant with the structure of the earth, by deductions the most rational and satisfactory, and by evidence the most complete; whereas in astronomy the person who cannot apply the telescope tube, has in a great measure to rest satisfied with the testimony of the astronomer, and the collateral evidence of the mathematician.

That the stratified portions of our earth have resulted from sedimentary depositions, such as those we witness in rivers, at the mouths of estuaries, and in lakes, is evident from the vast abundance, and the perfect state in which their imbedded organic remains are found. From the coral to the elephant—from the sea-weed to the lofty pine—the various species of animals and plants attest the ancient conditions of animal and vegetable life upon the surface of the earth, during each successive period of deposition.

Corallines are found in every period, but each great division differs in the characters of the species. Fishes of very different forms from those that now inhabit the ocean, with one or two exceptions, and of a predatory saurian character, prevailed in the ancient deep, and latterly crocodiles crawled upon the shores. The seas teemed with cephalopods allied to the cuttle fisher and nautilus of the present seas; and wherever there was land a tropical vegetation arose. Seven distinct geological epochs—each characterized by sedimentary deposits of enormous thickness, and each the work of many thousands, if not millions of years, and by the existence of distinct species of animals and plants, occurred previous to the introduction of an order of Nature analogous to the present; when mammiferous animals constitute the chief occupants of the lands, and plants producing timber, and fruit, and flower, are everywhere to be found. Such plants were not required while land animals were few, and these principally confined to the lizard and crocodile tribes, and therefore, they were not called into existence. "Nothing is made in vain." But after the introduction of such-giving animals, such as deer, cows, horses, elephants, and tapirs, which took place only after the chalk rocks had been deposited, we find the elm, the oak, and other exogenous plants to have existed, and Nature to have made a slow, but a gradual approximation to the state in which it seemed fit to Deity to call man into being.

Such is a brief outline of the views of modern geologists with respect to the age of the earth. Unfolding, as they do, the most evident traces of the continued exercise of creative power, in the production of creatures from time to time fitted to the existing physical conditions of the globe, they offer a most incontrovertible testimony to the existence of an infinitely intelligent and all-powerful First Cause, and thus lay the foundation of a true knowledge of the Great Architect of the universe.

That the earth is round, performs a revolution on its axis daily, and moves with inconceivable velocity in the path of its orbit round the sun once a year, are facts now familiar to every school-boy. It is also well known that the earth is not of a perfectly round, but of a spheroidal form; its polar axis being about twenty-six miles less than its equatorial diameter. The spheroidal figure of the earth is common to that of the planetary bodies. It is that which bodies necessarily assume whose particles have free motion among themselves, when subject to a rotatory motion like the earth; hence it is inferred that the whole matter of the globe once existed in a fluid state—a supposition strongly confirmed by its other phenomena. What form the first consolidated masses assumed, whether any such now exist, we have scarcely sufficient data given us to judge; but the oldest stratified rocks, gneiss and mica slate, being evidently derived from the disintegration of granite, it is not improbable that the original mass, when first consolidated, assumed the different crystalline forms of that rock. Lyell, it is true, has carried his metamorphic theory so far as to consider granite itself to have resulted from rocks of a prior origin, and that the tendency of all rocks, however new, is to pass onward to the metamorphic state evinced by granite and the rocks usually denominated primary; we are, however, disposed to agree rather with Phillips, and consider gneiss and mica slate as depositions of matter derived from the granitic floor of the earth, and that granite represents the primordial condition of the crust of the globe. Its state of crystallization shows its former fluidity, for fluidity is indispensable to the process of crystallization; and hence, from the nature of granite, as well as the figure of the earth, we are warranted to believe in its original fluidity. The only cause of that fluidity could be heat, and the radiation of that heat the cause of its ultimate solidify.

The mean density of the earth has been estimated at five times that of water, or twice that of the known solid substances, taken together, which constitute the crust. It becomes, then, a question, in what state the interior masses are—are they solid, fluid, or molten? In whatever state they exist, it must be evident they are much more dense than the exterior masses. This superior density may arise either from the substances being naturally heavier, under equal conditions, or it may result from the greater compression to which they are subjected from the superincumbent masses. Sir John Leslie computed that air, under the law of uniform condensation, would become as dense as water at the depth of 33 1/2 miles; and at a further depth it would acquire the weight of quicksilver; water, at the depth of 93 miles, would be compressed to half its former bulk, and at 362 1/2 miles would be as dense as quicksilver; and that air, from its greater compressibility, would acquire the same density as water, sooner than

LAW INTELLIGENCE.

ANTI-DRY-ROT COMPANY—IMPORTANT CASE.

COURT OF EXCHEQUER—NOVEMBER 6.
DALY v. THOMPSON.—This was a special action on the case against the defendant, as the public officer of the Anti-Dry-Rot Company, for not registering certain scrip certificates of shares in the said company at the instance of the plaintiff. In answer to this the defendant pleaded not guilty, and also that the plaintiff had no property in the said certificates. At the trial before Lord Abinger, at the last Middlesex sittings, it appeared that, on the original formation of the company, scrip certificates were issued according to the usual custom, which were registered on being presented by the holders—the Act of Parliament limiting the number of registered shares to 10,000. By some contrivance, however, some of the scrips so presented got abroad again, the result of which was, that the value of the scrip certificates fell to a great discount; during which crisis the plaintiff purchased the certificates in question on speculation, and presented them for registration. The defendant, however, refused to receive them, as the number limited by the Act had already been registered, and the Lord Chief Baron being of opinion that the plaintiff could not enforce his action under the circumstances by which he had become possessed of the scrip, ordered a nonsuit to be entered, leaving his learned counsel to take the opinion of this court upon the propriety of that opinion.

Mr. EALE accordingly moved to set aside that nonsuit, and for a new trial, on the ground of misdirection, submitting that though the plaintiff had bought the scrip certificates with a full knowledge of the fraud which had been perpetrated, and on speculation, yet that it by no means followed that these certificates were not valid, and such as to entitle him to have them registered. It might well be that some of the 10,000 actually registered were themselves tainted with the fraud alleged to have taken place in the reissue, and were themselves twice registered.—Rule nisi granted.

On Friday, the 12th inst., the above case was again brought forward, when it was argued on part of the company that the directors were bound to register 10,000 shares and no more—which number had been accordingly registered. It was asserted on the other side that the directors were bound to prove that the 10,000 names entered in the register were bona fide members of the company, and that they had a right to be there; it was for the directors to prove that the plaintiff had no claim to be registered; he (the plaintiff) produced a certificate signed by three of the directors of the company appointed by Act of Parliament.—The Court, as the case was one of great difficulty, took time to consider the judgment, since the company might be ruined by an adverse decision.

COMMERCIAL STEAM-PACKET COMPANY.

SECONDARIES' COURT—NOV. 9.

CORY v. BLEADON.—This was an action brought by the plaintiffs, who are extensive coal merchants at Old Barge-house, Blackfriars, to recover from the defendant, Mr. John Bleadon, the registered secretary to the Commercial Steam-packet Company, the sum of £349l. 16s. 3d., and interest thereon, amounting to £664l. 1s. 11d., for thirteen bills of exchange, which had been given for coals supplied by the plaintiffs to the above company.

Mr. STEVENS (solicitor for the plaintiffs), stated that judgment having been allowed to go by default, the jury were only called on to assess the damages, and he should address witnesses to prove the delivery of the coals, and the dishonour of the bills of exchange.—Witnesses were called to prove these facts, and the jury, under the direction of the learned secondary, returned a verdict for the plaintiff for £664l. 1s. 11d.

TRANSACTIONS IN RAILWAY SHARES.

COURT OF EXCHEQUER—NOV. 10.

FALKNER v. MACRAE.—This was an action for money had and received by the defendant to the use of the plaintiff, and was tried at the last assizes for Liverpool, when a verdict was found for the defendant.

Mr. STUART WORTLEY now moved for a new trial, on the ground that evidence had been improperly rejected at the trial. It appeared that the action was brought to recover the value of certain shares of the London and Birmingham Railway Company, deposited with the defendant, in the character of a banker, to secure advances of money. At the trial it became necessary, in order to show that the shares had been sold by the defendant, to identify the particular shares, by showing the numbers of the certificates; but as the certificates were not produced, or notice given to produce them, the learned judge refused to admit secondary evidence of the numbers. The learned counsel contended that such evidence ought to have been admitted in the same manner as if it became necessary to identify a coin, or any other chattel.—The COURT was of opinion that the evidence had been properly excluded.—The rule of evidence was only applicable to documentary evidence, but in the cases to which it applied it was a well understood rule, and it was better to adhere to it, although it might operate hardly in a particular case.—Rule refused.

THE SPECULATION MANIA IN CORNISH MINES.

COURT OF BANKRUPTCY—NOV. 8.

THOMAS SAUNDERS CAYE'S BANKRUPTCY.—In this case the bankrupt appeared before the court to pass his accounts, as was agreed last week. He was the party who was so deeply concerned in Cornish mining speculations, and which had swallowed up the large amount of capital of £60,000. [A full report of his previous examination appeared in our last.]

Sir C. WILLIAMS asked what there was to pay a dividend to the creditors.—The Official Assignee said, at present he saw no further prospects than the twenty down of wine and the old carriage that were taken possession of at the time of the bankruptcy. There was, he was reminded by the learned commissioner, the balance of £6l. at the two bankers.

The Bankrupt (warmly).—But there is the £60,000, invested in the mines; the creditors can take those mines if they think fit.

Sir C. WILLIAMS.—I dare say; we must not hold out any false hopes concerning them.—The Bankrupt.—That is a matter of opinion, Sir Charles.

—Sir C. WILLIAMS.—And your appearance here is a matter of opinion, too, I suppose.

A private examination was ordered of some affairs connected with the bankruptcy, to take place during the week.

ELLENGLAZE MINE—DISPUTED PURCHASE.

STANNARIES' COURT, CORNWALL—NOV. 4.

FERRIS v. ATKINSON.—Mr. STOKES showed cause against a rule which had been obtained for a new trial in this case, which was that of an issue directed by the Vice-Warden to be tried by a jury. The point submitted to the jury was, whether the defendant, Atkinson, had fraudulently purchased Ellenglaze Mine, or whether there had been such gross negligence on his part in making the purchase as to warrant an inference that there had been fraud in the transaction. Mr. Stokes recapitulated the evidence which had been adduced on the trial, to the effect, that the mine had been sold at a small public-house in Coburn Church-town, and not on the mine, as was announced by a few handbills which had been circulated; also, that the notice given to the public was not such as was usual in sales of mines and mining materials, there being only twenty-five handbills printed, which were posted, not at Truro, but in country villages, and no advertisements having appeared in the county papers of the intended sale of the mine; that the sale did not take place at the mine, according to the notice, but at a public-house three-quarters of a mile from it, where the only persons who attended the sale were the auctioneer, Joseph Vivian (the seller), Henry Fowell Stephens (the captain of the mine), Joseph Stephens, and the purchaser, Mr. Hatley. The landlord swore that he was not aware that an auction was going on, and heard no bidding. It was proved also that the bidders were not more than seven or eight, and that they were all made by the captain of the mine and the purchaser, who bought the mine in a lump in the period of a few minutes. Mr. Hatley acted as the agent of Mr. Atkinson. Hatley, who was called for the defendant, merely stated that he purchased for Atkinson, in the way described, and that at the time of his purchasing, required the seller to give him a list of the debts due on the mine, and he did furnish him with a list, purporting it to contain the names of the creditors of the mine. This was the substance of the evidence, and Mr. Stokes urged that it was a "mock auction," and that a sale at an auction of that description ought not to be considered binding on third parties. The jury had no consideration, after hearing all the facts, and their verdict ought not now to be questioned or disturbed. The case came within the principles of the statute of Elizabeth (namely, 13 Eliz. c. 8.), which declares that every gift, purchase, and sale of goods, chattels, &c., by writing or otherwise, with intent to defraud, injure, or defraud creditors or others of their lawful actions, suits, &c., shall be utterly void, as against the persons or persons whose actions, suits, &c., shall be the fraudulent transaction, be disturbed, injured, delayed, or defrauded. That the sale was with some such intention as was contemplated by that statute, might be inferred from the circumstances attending it; that the seller had such intention, there could be no question. The question was, whether the person purchasing was privy to it. At all events, if he was not actually colluding with the seller, he was guilty of that degree of negligence which must be considered to be fraudulent. The cost books should have been investigated, and all possible means taken to ascertain whether there were any outstanding debts. But, even supposing that were done, still it was incumbent on a person purchasing by auction to see that the auction was conducted in a fair, open, and unquestionable manner. It might have been that the purchaser intended not to defraud creditors, but that he wished to prevent competition, and to get his bargain as cheap as possible. If so, the creditors were really defrauded of their claims, inasmuch as, if there had been competition, such competition as would take place at a sale duly advertised and published, then the purchase-money would, probably, have been more than enough, and so there would have been no such means to injure the creditors.

water would reach the condensation of marble. From these facts he concludes that our planet must have a wide convoluted structure, and that we tread on a crust or shell, whose thickness bears but a small proportion to the diameter of its sphere. "An absolute void being inadmissible, the vast subterranean cavity must be filled with some very diffusive medium of astonishing elasticity or internal repulsion among its molecules. The only fluid we know possessing that character is light itself, which, when embodied, constitutes elemental heat or fire." "This spacious internal vault," he concludes, "must contain the purest ethereal essence, light, in its most concentrated state, shining with intense refulgence, and overpowering splendour!" We offer no opinion as to the plausibility of this very brilliant speculation, we only adduce it as an instance to what fancy may lead, when the actual condition of the substances speculated upon is entirely removed from observation.

That the central parts of the earth, however, are warmer than its exterior crust, is proven by numberless experiments made in deep mines, coal-pits, and from the waters of Artesian wells. The result of these experiments has been to show, that the earth increases in temperature at the rate of 1 deg. Fahrenheit for about every fifty feet of descent from the surface, increasing in a greater ratio in its descent. Should this heat continue to increase in the same ratio, on descent beyond ascertained depths, it is evident that the central parts of the earth must be intensely hot—a supposition that well accords with the existence of active and extinct volcanoes and thermal springs, the production of those vast masses of molten matter which in every age has been poured out from subterranean sources; and above all, with the altered condition of the metamorphic and primary strata. The admission of central heat, and of the ancient fluidity of all terrestrial matter, involves important considerations as to the remoteness of the period of original consolidation. Bodies radiate their heat according to a fixed law—viz., a body loses one-half less heat in any given period than in that which preceded it; that is to say, if the earth lost one degree of heat in a hundred years, in the following hundred years it would only lose one-half of a degree. Laplace applied his great powers to the calculation of the time required for the refrigeration of the earth in any given time; and found that many hundreds of millions of centuries must have elapsed since the crust of the earth could be materially different in temperature from what it now is—its decrease of temperature at present not being more than one-twentieth of a degree in a million of centuries!—*Glasgow Practical Mechanic.*

SPECIFICATIONS OF RECENT PATENTS.

NEW MODE OF OBTAINING MOTIVE POWER.

William Petrie, of Croydon, gent., for a mode of obtaining a moving power by voltaic electricity, applicable to engines and other cases where a moving power is required, Oct. 27.

The following arrangement of machinery is employed by the patentee in carrying out his invention:—Two rectangular helices, crossing each other at right angles (one helix including the other), are fixed in a suitable frame-work, and through the middle part of one end of each helix, where they cross, a transverse hole is formed, through which an axis passes, extending in where the helices cross each other at the opposite ends, and working in suitable bearings at each end of it. On that part of the axis which is within the helices a number of magnets are placed, with similar poles adjacent, being enclosed in a drum or cylindrical case, to reduce the resistance of the air; and between every two magnets some soft substance, such as pasteboard or felt, is placed, to prevent vibration, and keep the magnets at proper distances apart.—An electro-magnet, or magnets, may be substituted for these permanent magnets, if preferred.

To the outer end of the axis a current changer is connected, revolving with it, but as it forms no part of this invention, a description of it is unnecessary. The current of electricity from a galvanic battery, which is connected with the current changer, passes, during the first quarter of the current changer's revolution, through one helix; during the second, through the other helix; during the third, through the first-mentioned helix again, but in the opposite direction; and during the fourth, through the other helix again, but in the opposite direction; and the current changer is so placed with regard to the magnets, that they will lie parallel with one helix, when the current has passed half through that helix, so that the tendency of the current at all times shall be to deflect the magnets round, in one and the same continued direction. On the outer end of the axis a pinion is also keyed, taking into a large wheel, or any other contrivance, for causing the rapid motion of the axis, to communicate a slower, but more powerful, motion to another wheel or axis, which may be intended to do any useful work.

Claim.—The application of the defective action, which exists between electric currents and magnets, for the purpose of obtaining a moving power, as described.

IMPROVEMENTS IN STEAM ENGINES.

James Sims, of Redruth, Cornwall, engineer, for certain improvements in steam-engines, Oct. 29.

This invention consists in a new method of constructing and working steam-engines, by means of which equal quantities of steam are caused to do a greater amount of duty than has hitherto been performed by the like quantities. It is applied to an ordinary Cornish single pumping-engine in the following manner:—The cylinder of the engine is made of double the usual length, and is divided into two parts, the under part being about four times the area of the upper part; it is provided with two pistons, attached to one rod, one piston working in the upper or smaller part, and the other in the lower part of the cylinder. The remainder of the engine is the same as usual, with the exception of the steam and exhaustion pipes necessary for carrying out the invention.

The following is the mode of working the engine, the description commencing just as the engine has completed its upward stroke, and both pistons are at the top of their respective cylinders, with a nearly perfect vacuum between them, established by means of an exhaustion pipe:—During the passage which takes place in these engines, between the up and down strokes, the under part of the cylinder is opened to the condenser, by which means a nearly perfect vacuum is also established below the lower or larger piston; steam is then admitted from the boiler on to the top of the upper piston (being cut off at one-third of the stroke), and by its pressure there, acting against the vacuum beneath each piston, it forces both down to the bottom of their respective cylinders. The partially expanded steam above the upper piston, is now led down by a pipe to the bottom of the cylinder, where, expanding to its full extent under the lower piston, and aided by the vacuum between the two pistons, it causes both to descend to the tops of their cylinders, with a force about equal to that which was exerted in the down stroke.

Claim.—The mode hereinbefore described of constructing steam-engines to be used expansively, with one cylinder, divided into two parts of different areas, and with two pistons attached to one rod, whereby the one fits the upper and the other the lower part of the cylinder. Also the method above described, of employing the steam used in effecting the down stroke, to produce also, or assist in producing, the up or return stroke.

THE DISC ENGINE.—We learn, with great satisfaction, that this invention has been successfully applied as a locomotive power for railways. An engine on the disc principle having been supplied to the Birmingham and Gloucester Railway Company, trials have been made within the last few days, in the presence of several practical engineers connected with railways in this district. Although the further prosecution of these trials has been postponed by the occurrence of an accident, ample proofs were afforded to establish the perfect suitability of this simple machine for locomotive purposes. It was particularly observed by the engineers, that the disc locomotive, when running at high velocities, was free from the violent rocking motion which is produced by engines of the usual construction. The value of this peculiar qualification, as providing for economy in the important item of wear and tear, and more especially as conducing to greater safety at high speeds (for which this engine appears to be peculiarly suitable) will be self-evident. Parties who have inspected this engine have been much struck with the simplicity of its construction, and particularly of the parts required for connecting it with the driving wheels, as compared with the usual locomotive engines; and it is obvious that this simplicity must prove a saving of cost in the first outlay required for locomotive power, and a still more important saving in the constant expenses of repairs. We feel greatly interested in the successful issue of these trials, as we consider the invention to belong to our own district, a company having been formed for the manufacture of the disc engine in Birmingham. We hope to be enabled to give a detailed account of the future experimental performances of this engine.—*Midland Counties Advertiser.*

ARTESIAN WELLS OF GARNEMUND.—Mr. Arago mentioned to the Academy of Sciences, at the late meeting, the interesting fact with respect to the bore of the well of Garnemund with a metallic tube. In one part the tube had been squeezed, by lateral pressure, into the form of the figure 8; in another into that of a crescent. The cause of these pressures was entirely unknown; all the lining would have to be taken out; but this was found to be a work of the greatest difficulty, and only 220 feet of tubing had hitherto been introduced.

Mr. HUCKIN replied that the evidence did not warrant the construction drawn from it—that the jury, from local feeling and a desire to favour the claims of creditors, had considered the transaction to be fraudulent, although, in fact, there was no evidence of fraud. It was proved for the defendant he had given a fair value for the mine, that the purchase-money had been paid, and that the defendant had inquired for a statement of the claims on the mine, which had been furnished, without including the name of the plaintiff, who, it subsequently appeared, was a creditor. Defendant, by his agent, appeared to have caused all due diligence to ascertain the claims, and there was no reason to suppose that if the seller was desirous of avoiding any just claims that the purchaser colluded with him for that purpose. He had seen an advertisement some time before in the papers for the sale of the mine, though not for that precise period; and in consequence of that advertisement he had treated with the seller for the purchase.

The VICE-WARDEN said he considered the question to be, whether the purchase at the auction held in the manner described, was such a purchase as would preclude third parties. He would read his notes of the evidence, and give his judgment in the case, which he considered to be one of great importance to the county.

ON THE FORMER EXISTENCE OF GLACIERS IN NORTH WALES.

At the late meeting of the Manchester Geological Society, Mr. J. E. BOWMAN, F.G.S., read a paper "On the Evidence of the former existence of Glaciers in North Wales," of which the following is an abstract:—At the commencement of the paper the author stated that the recent discovery of glaciers in Scotland, and the North of England, rendered it probable that similar appearances would be found in North Wales, the circumstances of geographical position being much alike. In Switzerland, the greater altitudes of the mountains, and distance from the sea, more than counteract the increase of temperature arising from being 10 deg. nearer the equator; and, therefore, on this view, assuming the theory of Professor Agassiz, of a general reduction of temperature in the northern hemisphere at a remote period, the mountains there might be enveloped in ice and snow, while those of Britain might be free from them. But it is well known, that the Alps are of more recent origin than the older rocks of Britain, and have been elevated since the tertiary period; it is, therefore, possible, considering their altitude, and higher latitude, that the mountainous district of our island might have been the seat of more intense cold than Switzerland, which was at that time without lofty mountains, and in a much warmer climate.

In the course of his investigations among the schistose rocks of North Wales, during the late summer, the author visited many high and unfrequented tracts, where it seemed probable, if anywhere, that evidences of ancient glaciers would be found. He examined many of the valleys on the east and south of Snowdon, the Arenigs, and the north end of the Berwyn chain; of the moorland hills of Denbighshire, between Cerrig-y-Druidion and Llanrwst, and those which intersect the wild and barren hills between the great Holyhead road and Bala, and from the dividing ridge between Merionethshire and Denbighshire. These valleys descend from the highest mountains of the district, and are the troughs through which the numerous tributaries of the Dee, the Clwyd, and the Conway, are carried into the lower parts of the country. Many of them, from their smooth uniform inclinations, seem calculated to produce and retain those peculiar phenomena which glaciers originate, but none of these were observed of a sufficiently marked character to justify the author in referring them to such an origin.

He found, however, some appearances which bore so strong a resemblance, that he deemed it necessary to describe them with considerable minuteness of detail, to guard those who have not witnessed existing glaciers from attributing them to that cause. Of true lateral or terminal moraines no example came under his observation; but the banks of the Conway, between Ysptyty and Pentre Voelas, were loaded on both sides by a succession of rounded wavy knolls, which are very striking in such a barren district, from their smoothness and rich verdure. They are superficially coated with gravel, with a rocky nucleus, and extend from above Ysptyty, for several miles down the stream, and in the gorge of the Conway may be seen in several places near the great Holyhead road. They presented no character that could be likened to a moraine; and, if any one were to contend they originated from a glacier, it would be necessary then to admit that they had been subsequently modified by water.

The next class of phenomena adverted to was the striae, or lines on the surface of rocks, well known to be produced on the bottom and sides of the hollow trough in which glaciers move, by sharp stones imbedded in their lower surface. In the neighbourhood of Llangollen there is a perfectly level surface of upper Silurian shale, which is streaked or traced with strong parallel grooves or furrows, which had the appearance of having been planed with a tool with a snipped or indented edge. Their range or direction was north-west and south-south-east, and the breadth of surface exposed was twenty-five to thirty yards. This was proved not to have been done by the action of a glacier, because it was also present on portions that had never before been exposed, and were then first taken out of the solid rock. The horizontal position of the stratification, and height of the mass above, made it very improbable these striae could have been of the nature of slickensides; and it was conjectured, as their direction lay nearly in the magnetic meridian, they might have been produced by electrical action while the bed was yet in a soft state. Another modification of striated rocks was found in the lower Silurian formation, near Ysptyty. The surface was strongly marked with a system of wavy corrugations, which preserved a general parallelism, and ran into one another at short intervals. These were crossed at an angle of about 70 deg. by a second series of closer, finer, and more regular lines, which traversed the intermediate hollows as well as the crest and sides of the wavy corrugations. In this instance, also, the whole was marked, the striae being found on portions of the bed that had never before been exposed. It was, therefore, clear that it could not have been caused by a glacier. Other instances of striated rocks were mentioned, which, on examination, were found to be only the ends, or sections, of one of the series of joints, which are of such general occurrence in the Silurian rocks, but liable, on superficial examination, to be mistaken for glacier action.

A single example of the rounded form, called by Sansure *roches moutonnées*, was met with in a spot well known to tourists as one of the wildest and most Alpine in North Wales, where the torrents from Llyn Ogwen and Llyn Idwal, on issuing from their respective lakes, are precipitated over the rocky barrier that forms the head of Nant Francos. Standing on the bridge between these two torrents, the rocks on both sides, that form as it were the crest of this barrier, seem to have a smooth or rounded form that is evidently not natural. That in the channel of the Ogwen is the largest and most regular, and resembles some rocks in Switzerland that have been smoothed and polished by a glacier passing over it. Those now described are not polished, but are rough and abraded; and, being in the course of a torrent, it seemed more natural to attribute their artificial form to the constant action of water. They are at present some feet higher than the level of the lakes; but it is not difficult to believe that they were once covered by the torrent, and that, in the lapse of ages, the stones and ice it has carried along, with it have continually deepened the channel till the domed surfaces have been left projecting in their present situation.

Such (concludes the author) are the principal appearances I have observed in North Wales, which approximate to the effects produced by existing glaciers upon the rocks and debris by which they are surrounded. The phenomena of moraines interested me much in Switzerland; and the recollections of their singular features would, I think, have enabled me to detect any traces of similar remains in the mountainous district under consideration. I would not, however, be understood as meaning to deny their existence in it altogether; for there are still so many obscure valleys that I have not visited, at least since the discovery of the remains of glaciers in Britain, that it would be presumptuous to speak dogmatically upon so obscure a subject. My object has been to confine myself to what I have seen during the late summer, to describe appearances with accuracy, and refer them to their real causes (independently of any theory). Believing that glaciers once existed in Scotland and the north of England, I thought it probable that traces of them might be found in Wales also; and I have shown that not a few appearances there, say, on a hasty survey, be attributed to such an origin. But believing, after deliberate examination, that these have either been produced by other adequate causes, or could not have been due to glacier action, I have felt myself bound honestly to state the conclusions I have arrived at, being satisfied from some experience, that to allow the observation or the judgment to be warped by preconceived theory, however plausible, or to decide on partial insufficient evidence, must be ultimately injurious to the cause of truth.

The CHAIRMAN observed, that the paper suggested many problems and one of solution, especially the striated marks upon the rocks. One of the illustrative specimens of schistose rock was a stratified sedimentary rock, which, when first deposited, was doubtless in a soft state; and therefore its surface would be flowed over by waters continually, and possibly a little areaceous matter would be deposited. He was glad to see that Mr. Bowman had proceeded with great caution in drawing any inferences of glacial action in North Wales from the appearances noticed, as, perhaps, like himself, he might be a little led away by the great avalanche of opinion which had come down upon this country, in consequence of the statements of Professor Agassiz. True, many appearances could be explained only by the force of ice, the action of conglacial water, and when boulders weighing tons, were found placed on the surface of a very soft gravel, they could scarcely conceive them brought there by any great force, glacial or otherwise, but rather that they were quietly deposited by the melting of the ice, in the soft gravel or till. He was glad that Mr. Bowman had entered his Welsh geological preserve cautiously, so he (the chairman) thought he had not found satisfactory evidence of any glacial action there.

PROCEEDINGS OF PUBLIC COMPANIES.

STEAM-CARRIAGE COMPANY.

A general meeting of the proprietors of shares in the above speculation was held at the Freemasons' Tavern, on Thursday, the 11th instant.

H. STEWART, Esq., M.P., in the chair.

The CHAIRMAN commenced the proceedings, by informing the meeting that the last time they adjourned it was for the purpose of giving the patentees more time; Sir J. Anderson's letter had stated that he had a carriage ready for delivery, but up to the present time they had heard nothing of it. There were two questions to be decided—first, whether they should dissolve the company, and each receive the portion which was still in hand of the deposit of 4s. per share; and, secondly, whether Sir J. Anderson should have further time given to him to see if he could fulfil his engagements? An Irish company had succeeded in getting carriages, which he had realised their expectations.

Mr. JOHNS stated that the carriages for the Irish company had been made by Sir J. Anderson and Mr. Rogers—was there any representative of Sir J. Anderson present?—Mr. MANSELL said he did not appear as a representative of Sir J. Anderson, but he had witnessed the success of the two carriages made in Ireland under Mr. Rogers's superintendence—one was for speed, and the other for goods. He then gave a long account of the carriages, and a journey that was made in the heavy one, stating that in the most inclement weather, with the roads in some parts covered with water to the depth of from twelve to eighteen inches, the carriage went on in beautiful style, mounting hills with a rise of one foot in ten, and one foot in twenty-two, where the road was so bad that the carriers could not get up with their carts, and with the disadvantage of not having proper coke, the only sort they could procure being gas coke. The result was, the Irish directors were highly satisfied with the experiment, and felt assured that it would prove a profitable speculation; they had expended above 60,000l. It also appeared that the carriages, when they were finished, instead of being sent to England, were mortgaged to the Irish company for the money advanced to make them.

Mr. JOHNS inquired how it was that the Irish company had a perfect carriage, when the English company, which was the first in the field, were without one.—Mr. REARDON explained that if the English company had come forward with their money as the Irish company had they might have had the carriages; the Irish company had produced the carriages at its own expense, not the patentees. He then bore testimony to the excellent manner in which the carriage did its work in the trip mentioned by Mr. Mansell, in bad weather and over wretched roads, and stated that he was perfectly satisfied with the speculation.

A long discussion then ensued, Mr. JOHNS doubting the ability of Sir J. Anderson to produce a carriage, and Mr. MANSELL stating he had seen one, and rode at the rate of twenty-five miles per hour with it, and that the only thing which prevented its being brought to London was the want of means; about 100l. would be necessary to achieve that end.

Mr. STOKING then moved a resolution, to the effect that the company do still continue, but that in consequence of Sir J. Anderson and Mr. Rogers's failure to complete the contract that the company be open to receive propositions from other parties—which was carried unanimously.—Mr. DAYRELL (a director) thought that they ought to have had the first engine, and expressed his opinion that those shareholders who wished to quit the company should be allowed to withdraw their portion of the 4s. per share deposit.—A long conversation ensued upon this subject, during which the conduct of the patentees was severely commented upon, and a motion was made, to the effect that the directors be empowered to advance 100l. to bring the carriage to London from Manchester; but, after considerable discussion, the motion was withdrawn.—A vote of thanks was passed to the chairman and directors, and the meeting adjourned, the proprietors expressing their dissatisfaction at having been made fools of by the patentees for the last four years.

METROPOLITAN PATENT WOOD PAVING COMPANY.

An extraordinary general meeting of the shareholders of the above company was held on Saturday, the 6th instant, at the offices of the company, Millbank-row, Westminster.

CHARLES HULSE, Esq., in the chair.

The CHAIRMAN announced that he believed the shareholders present represented not less than 14,026 shares; the meeting had been called as soon as the directors felt they could conscientiously do so for the benefit of the shareholders.—The report of the provisional committee of directors was then read by the SECRETARY (Mr. Pinner), from which it appeared, that in accordance with the terms of the prospectus, the entire number of 15,000 shares of 10l. each had been subscribed for, upon which the deposits of 2l. per share was paid, placing a sum of 30,000l. to the credit of the company; that upon the contracts lately completed, the committee had the satisfaction of announcing a profit of 1905l. 11s. 4d., from which the sum of 917l. 10s. 10d. being deducted for current expenses up to December 25, 1841, would leave a balance of 988l. 2s. 6d., exclusive of the profits arising from the contracts to be completed before the expiration of that period; that it was confidently expected that a dividend of 5l. per cent. upon the paid-up capital, before the expiration of the current year, would be announced; that of all the work yet laid down, not one shilling had been expended in repairs. The report concluded by stating that it was not too much to assume that in the course of the next succeeding years the proprietors might look forward for dividends ranging from 10 to 15 per cent.—It having been moved and seconded, the report was unanimously adopted and agreed to.

CLARENCE RAILWAY.

A special general meeting of the proprietors of the above undertaking was held at the Town Hall, Stockton, on Thursday, the 4th instant.

H. VANNITTART, Esq., in the chair.

The requisition calling the meeting having been read, the CHAIRMAN stated that the meeting was called to take into consideration the present state of the company's affairs, and to determine upon the best course to be pursued for the welfare and future management of the concern.

The request of Mr. Blanchard to be allowed to read the proceedings of the special general meeting held in London on the 29th ult., was granted, and some complimentary conversation ensued, after which Mr. W. SKINNER moved.—"That this meeting views with feelings of deep regret the unfavourable position in which the Clarence Railway Company is now placed, and deems it highly expedient that active measures be adopted to render the management of the affairs more economical and efficient, and more fully to develop its resources."—After considerable discussion, the motion, being seconded, was carried.

Mr. T. WALKER then moved.—"That it is the opinion of this meeting that the interests of the Clarence Railway will be best promoted by the executive management being conducted in the country—that the board meetings should therefore be held at Stockton—and that it is desirable now to take immediate steps for carrying this object into effect."—A very lengthened discussion then took place, Messrs. Blanchard, Morrice, Milton, Blackett, and Sangster, strongly objecting to the motion. On its being put to the vote, the show of hands was as follows:—For the motion, 356; against the motion, 56.—Majority for the motion, 270.—A claim was then made for proxies, which, on being produced, showed a majority of 637 against the motion.

It was then agreed that written answers of absent proprietors, which had been recently forwarded to Mr. Jackson, in reference specially to a country management, should be recorded as votes, subject to a future determination whether they could be considered legal appointments of proxies, which showed 337 letters as favourable to a country management, and 6 unfavourable. A conversation then ensued upon the propriety of calling another special meeting at Stockton one month hence, on the same subject, but the London delegation undertaking to bring the subject before the company in March next, and adjourns the same to Stockton, the motion was withdrawn.

MIDLAND COUNTIES RAILWAY.

A special general meeting of the proprietors of the above railway was held at Derby, on Friday, the 5th instant, for the purpose of considering and determining on the expediency of authorising the directors, in concurrence with the other railway companies interested in the completion of the line of railway between London and Newcastle, to adopt measures for forwarding an application to Parliament in the next session for an act to make a junction railway between the Great North of England Railway at Darlington, and the Durham Junction Railway. The subject having been fully discussed, the following resolution was put and carried by a majority of fifty, there being only two dissentients:—"That this company approves of the plan of uniting with several other railway companies in taking a lease of an intended new railway to connect Darlington and Newcastle, at such a rent as will pay the shareholders in the projected undertaking 6 per cent., and the directors be authorised to guarantee such proportion of the cost, and adopt such measures in reference thereto, as may appear desirable."—The meeting then adjourned.

DIAMOND (GRAVEREND) STEAM COMPANY.

The annual meeting of the shareholders was held at the Town Hall, Gravesend, on Wednesday last, Dr. Warren, the principal director, in the chair. The annual report was read, from which it appeared that during the last year the boats of the company had carried upwards of 260,000 passengers, the total receipts, including sums paid by the stewards, being 70,430l.; the amount of profits earned during the past year was only 600l., whilst, to pay a dividend of 5 per cent., 20,000l. would be required; the debts of the company were—amount of paid capital 45,000l., against which might be set the estimated value of the packets, 41,000l., and a reserved fund of 4500l.—making together something less than 45,000l. Under the circumstances it was considered by the more prudent of the proprietors that it would be improper to make a dividend; but ultimately it was resolved that a dividend of 5 per cent. should be paid out of the reserved fund.

ON THE COMBUSTION OF ANTHRACITE—ITS VALUE AS A FUEL FOR STEAM-ENGINE AND OTHER FURNACES.

BY ANDREW FIFE, M.D.

(Read at the Institution of Civil Engineers.)

Anthracite, although known as a valuable fuel for particular purposes, is so difficult of combustion, that it has hitherto been very partially brought into use; it has, however, become desirable to introduce it more generally, and the author having been engaged in testing the value of Mr. Bell's patent furnace, was induced to make some experiments on the use of anthracite in conjunction with that system. The objects sought to be obtained by the apparatus are, to insure a larger amount of evaporation, by passing heated air, unaided with the products of combustion, through tubes in the boiler and surrounded by the water, thus increasing the evaporating surface; and that the surplus caloric taken originally from the fuel, and not given out in its passage through the water, should be beneficially used in aiding the combustion beneath the boiler. It has been found in the manufacture of iron that anthracite could be advantageously used by means of heated air; the author, therefore, considered that the experiments upon this apparatus (the intrinsic merits of which he does not at all discuss in this communication), afforded an advantageous opportunity for ascertaining in what manner this fuel could be successfully employed under steam-boilers.

The anthracite supplied to the author was unfortunately of inferior quality, analysis giving only of fixed carbon 71.4, and of volatile inflammable matter 13.3; the setting of the boiler required much attention before sufficient draught could be procured. The fuel was thrown on to the bars by hand, which is the worst manner of using it, as from its density, and its being a bad conductor of heat, it decrepitates when it first inflames, unless it is previously warmed—this was found to occur for a short time, but on the application of the heated air the decrepitation ceased, and combustion went on steadily. In ascertaining the amount of evaporation, the water at a temperature of 45 deg. was injected by hand from a vessel, the content of which was measured, and the level in the boiler regulated by the float and index. The fire was brought up to a certain intensity before commencing, and was left in the same state at the end of the experiment; this mode of proceeding, although objectionable with bituminous coal, is not so with anthracite, as it does not swell during combustion so as to alter the bulk of the fire.

The results of an experiment extending over eight and a half hours without interruption, are then shown in a tabular form. In this trial, 448 lbs. of anthracite were thrown on the fire in four equal portions, at intervals of two hours; 3560 lbs. of water at 45 deg. were pumped into the boiler and evaporated under a pressure of 17 lbs. per square inch. After deducting 403 lbs. of unconsumed coal which fell through the bars, the amount of evaporation was found to be 8.73 lbs. of water for each pound of coal consumed. If the feed water had been at a temperature of 212 deg. the evaporation would have amounted to 10.03 lbs. During this trial the air in the tubes of the boiler never exceeded 430 deg., but on subsequent occasions it was raised as high as 700 deg. This product of evaporation is below that obtained by other persons, which the author attributes to the inferior quality of the specimens of anthracite, and the admission of cold air above the furnace bars when throwing on the fuel. His opinion is, that when anthracite is completely burned, the practical evaporative power will be found directly in proportion to the amount of fixed carbon contained by it—that with the exception of the loss of heat which is always transmitted to the brick-work of the furnace, and of that which is carried up the chimney to keep up the draught, the whole of that evolved by the fixed carbon will be retained by the water; because from good fuel there is little or no escape of gaseous matter, and hence the superior efficacy of anthracite.

From the analysis of a number of specimens of anthracite, the author found the quantity of fixed carbon to amount to 90 per cent. The evaporative power of these fuels, as fixed by Berthier's process (*in vide sèche*), would amount to 17.3 lbs. of water for each pound of coal consumed. He calculates that 6 lbs. of anthracite will evaporate one cubic foot of water under the ordinary circumstances of a steam-engine boiler, and taking the average specific gravity of bituminous fuel at 1280, while that of anthracite is 1410, there is a difference of nearly 10 per cent. in favour of the latter, considering the space in which it can be stowed. This is an important consideration for its use on board steam vessels, but it is essential that its rate of combustion should be such as to raise steam rapidly, its capabilities for which the author then proceeds to examine, and deduces from the experiments that the combustion of the anthracite was carried on so as to produce a greater amount of evaporation, in a given time, than could be obtained from bituminous coal. This result is attributed in some degree to the use of heated air. The author recommends that the anthracite should be supplied to the furnace by a hopper through the boiler (Pinner's patent), wherein it is warmed before reaching the fire-bars, which obviates the inconvenience of decrepitation, and insures regularity in the supply of steam.

Mr. LOWE saw no reason to doubt the results recorded by so accurate an experimenter as Dr. Fife, which proved that anthracite was efficient just in the proportion of the carbon it contained, but he was at a loss to reconcile this with the opinion of Mr. C. W. Williams, who recommended the addition of bituminous substances to pure carbon, as a means of increasing the calorific power of fuel. He must repeat the opinion expressed by him on a former occasion, that the coal must first be free from elementary oxygen, would in practice be found the most effective fuel. Neither could any fuel be used too dry or too hot. At the gas works under his charge, a considerable economy had been effected by Mr. Croil's patent process of using the coke as it was drawn from the retorts, and thrown in an incandescent state into the furnaces.

ON THE APPLICATION OF WATER TO ANTHRACITE.

(FROM A CORRESPONDENT.)

All persons who have been much accustomed to the use of anthracite for fuel seem to entertain an idea that the application of water has a beneficial effect. It is the invariable custom of the old inhabitants of the districts where no other fuel is used, to wet the coal before putting it on the fire. A wet paste of small coal, mixed with clay, makes a more lively and pleasant fire than small coal alone. This must arise from the clay retaining a portion of the water until decomposed by the ignited carbon of the coal producing the gases, carbonic oxide and carburated hydrogen. It has been suggested that the application of vapour of water to anthracite fires in steam-boilers would supply the gaseous or volatile properties of bituminous coal; there is, however, much difficulty in the perfect development of the principle, arising from the compact structure of the coal, and the close manner in which the pieces of coal seem to adjust themselves in the fire. It is necessary that the coal be kept in an active state of combustion while the vapour is passing through, but so little passage being allowed through the fire, when the vapour of water is applied, it shuts off the supply of air, consequently the combustion is diminished. It requires both a very high temperature and a large quantity of pure air, with a full quantity of oxygen, to consume carburated hydrogen—the most important of the two gases. Carbonic oxide burns at a very low temperature, and produces little heat. A quantity of flame may easily be produced by steam passing through an anthracite fire, but it is chiefly that of the latter gas, the former being volatilised without burning, and its powerful effect, consequently, lost. Besides the air necessary to keep up the combustion of the coal in the fire a large quantity is necessary to consume the gases, and that, too, at a high temperature. It appears impossible to attain these results with a common draught.

The writer, after considerable experience, is decidedly of opinion that anthracite cannot be used with advantage in ordinary boilers without a blast. When a blast is used, although it may be difficult, yet it is not impossible, to devise a method of producing the full effect from the application of water to an anthracite fire; it is a subject of vast importance, and well worthy the attention of young mechanics and engineers—a fine field for the exercise of their ingenuity. It is quite certain that some anthracite contains 90 per cent. of pure carbon, and were it possible to render the entire effect of this available, certain portions of it converted into volatile inflammable matter by its union with the elements of water, and steadily and continuously applied to the tube or face of a boiler without loss, anthracite might be considered as a species of concentrated fuel—an invention of incalculable value for steamers going upon long voyages. When anthracite is used for blacksmith work, there is abundance of heat, but a large quantity of clinker is formed; this clinker has generally been considered as a mere oxide of iron, but it certainly contains carbon. It is the same clinker which is produced in large quantities in the refining process of the iron works. Possibly oxygen and carbon, in the proportions to form carbonic oxide, are combined with the iron. A minute quantity of water running into a blacksmith's fire, when using anthracite, would remedy this—the presence of hydrogen preventing, in a great measure, the formation of the clinker. It is an axiom in the north of England, that a good gas coal is a good smith's coal, and vice versa. It will be quite impossible to manufacture malleable, or hot-iron of good quality, using anthracite for fuel, without the application of the vapour of water. This is a subject of the deepest interest in parties embarking in iron-works, where anthracite must be used for fuel. A patent for producing gas, by passing steam through a retort charged with anthracite, has been taken out by E. O. Masley, Esq., C.E., of Swansea—a gentleman possessing a thorough local knowledge of the anthracite district of South Wales, and who has had the best opportunities of judging of the powers and capabilities of the coal. He produces gas of great illuminating power rapidly and abundantly, which requires no purification. It seems likely that the distinguishing feature in the difference of the several varieties of coal depends upon the presence of the elements of water, either entire or in varying proportions, that are combined with the carbon—anthracite being quite free from them. It is a fair speculation to imagine that the anthracite value of coal at some period possessed bituminous properties, but that being more immediately acted upon by volcanic emanations, all volatile matter was expelled, while extraneous pressure being applied left the coal a solid compressed mass of carbon, constituting the peculiar characteristic of anthracite.

MISCELLANEA.

EXPERIMENTS ON THE EFFECTS PRODUCED BY COMPRESSED AIR UPON MINES.—M. Triger communicated to the French Academy of Sciences, on Tuesday week, some curious effects of the compression of air, witnessed in an apparatus which he had invented for sinking shafts of coal-pits in the Maine-et-Loire, where compressed air was used for keeping out the water filtering through beds of sand; the immediate effect produced on the workmen, on passing from the open air into that compressed to three atmospheres, was pain in the ears, more or less strong; but this soon ceased. A great acceleration of combustion was witnessed—tallow candles with metal wicks being obliged to be used instead of those with cotton, which were consumed much too quickly, and gave out an intolerable smoke. It was observed that, when the pressure was taken off the air, great cold was experienced, and the air itself became converted instantly into a thick fog or cloud. The workmen found that their voices were much more feeble in the compressed than in the open air, and that they could not whistle; it was also much easier for them to go up steps of ladders in the compressed than in the open air, their breathing being more free; and one of the men who had been deaf ever since the siege of Antwerp, was able to hear distinctly while in the compressed air.

IMPROVEMENT IN THE AMALGAMATION OF SILVER ORES.—Mr. F. N. Johnson described his process for separating gold and silver from their ores at the Polytechnic Hall, Falmouth, on Tuesday week. The lecturer explained that the plan pursued is to form an amalgam of zinc and mercury, and having, by the usual processes of calcination, reduced the metal to the state of chloride, it is mixed with the amalgam; by the operation of chemical affinities a chloride of zinc is formed, and the gold and silver unites with the mercury, and may be separated as solid amalgams by being squeezed through leather. By this process a great saving is effected, and the quantity of silver or gold obtained is much increased.

SUBSTITUTE FOR GAS.—A discovery has been made by M. Van Noorbeck, of Bruges, which is destined to effect important changes in the modes of lighting at present in use. It consists of a liquid, which can be made use of in a lamp, or any other apparatus prepared according to a given plan; a match serves as a conductor to the liquid, but does not consume as in ordinary cases. The liquid ignites the moment the flame is approached to it, and throws out a light of surprising purity and brilliancy, at least equal to that of gas. The flame, which is of the length of from seven to eight inches, burns steadily, fatigues in no degree the sight, gives no smoke, exhales no odour, resists the action of the wind, and while exposed to it loses neither its brilliancy nor its intensity. Every jet, according to the inventor, consumes about the value of two centimes per hour. M. Van Noorbeck has proposed to the municipality to light the Grande Place with his newly-invented lamp, in order to convince the incredulous.—*Annales de Bruges.*

GLACIERS OF SWITZERLAND.—At the meeting of the Academy of Sciences, Paris, on the 23d ult., Baron Von Humboldt read a letter from M. Agassiz, upon the experiments he is occupied in making upon the glaciers of Switzerland. He had found that infiltrations of water took place in the glacier of the Aar at different depths; to ascertain which he had been lowered by ropes 140 feet into the heart of the ice; and that this infiltration took place at very unequal temperatures. He had been able to ascertain with accuracy the movement of various blocks of stone on the surface of the glacier, and had proved, by careful measurement, that a block, the position of which had been determined by M. Hugli in 1827, had been moved 5000 feet, up to the end of August, 1841. He had found the glacier of the Aar to be traversed by ribands of blue and white ice, and had made many interesting observations on the polishing of rocks by the movement of the glaciers, which tended to confirm his theory of the geological origin of erratic blocks. He declared himself highly satisfied at the result of his present experiments, and said that the more he saw of the glaciers the more they were worthy of study.

OXIDATION OF SILVER BY SALT-WATER.—In the operations for the removal of the Royal George last week, some silver trapezoids were found consolidated into a dark-coloured mass by some process of oxidation, so that in attempting to separate them one broke. It is proposed to submit these spoons, which were known to be silver by rubbing off the dark crust on the surface, to some eminent chemist to be analysed, it being a remarkable and unexpected result, that silver should be more injured under salt-water than brass—everything made of the latter material, from a 24-pounder to the smallest article recovered from the wreck, having been found in a perfect state.

COMPOSITION OF THE ATMOSPHERE.—Experiments have lately been made simultaneously at Paris, Bern, and Foulhorn, for the purpose of ascertaining whether the proportions of oxygen and nitrogen were the same at all these places. The main result is, that out of 10,000 parts of air at Paris, there were 2304 parts of oxygen; at Foulhorn, 2297; and at Bern, 2295. As the proportions at one of these places are found to differ much more than the mean of the three places differs, the conclusion is, that the constitution of the air is the same at all places, and of course it must be a chemical compound.

METEORIC BODIES.—At a late meeting of the French Academy of Sciences, M. Von Humboldt read a letter from M. Boguslawski, director of the observatory at Breslau, in Silesia, from which it appeared that a small diminution in the frequency of meteoric bodies falling to the earth (shooting stars) might be expected; he was calculating certain laws relative to their recurrence, and was making observations every night for two hours upon such bodies. M. Arago communicated some observations on the same bodies from M. Littrow, observer at Vienna; on the night of the 9th ult. he had observed 162 meteoric luminous bodies, and on that of the 11th 194 more. A letter from M. Wartmann, of Geneva, stated that, on the night of the 20th July last, he had observed a shooting star, which appeared to become extinct in the middle of its course, and then became bright again; his son had once before witnessed a similar phenomenon, which was of the rarest kind.

METAL CONVERTED INTO COIN IN FRANCE.—According to an official statement, the quantity of metal annually converted by the French mints into coin is 433,240 English lbs., producing 18,000,000f., 5,000,000 being in gold, and 13,000,000 in silver. The Mint of Paris absorbs one-third of this quantity, and consequently the other mints have to coin no more than the annual amount of 280,000f. It appears that there are 50,000,000f. worth of copper money in circulation—namely, 10,000,000f. in royal sous, 19,000,000f. in half-metal, and 21,000,000f. in sous of the Republic. This mass of metal weighs 23,370,000 lbs.

THE EARLIEST DISCOVERIES.—Cingis, the son of Agriops, first found out the brass mines in the island of Cyprus; Danaos sunk the first wells in Greece, at Argos; Cadmus at Thebes was the discoverer of stone quarries; Lydus the Smythians, or Darius the Phrygian, taught the art of casting and melting brass, and of tempering it; and the Chalybes or the Cyclopes invented the forge and furnace. Erichonius or Maron discovered the silver mines of Attica; and Cadmus, the Phoenician, the gold mines of Mount Pangaea, and the mode of working and melting that metal; and Midas was the first who brought lead (quarry tin) from the island Cassiteria.

USEFUL APPLICATION OF SCIENTIFIC PRINCIPLES.—A very interesting lecture was delivered at the Polytechnic Hall, Falmouth, on Tuesday week, by Mr. Lovell Squire, on the useful application of known scientific principles. The lecturer, in a clear manner, explained many of the laws connected with heat and combustion, and illustrated their application by several very beautiful experiments with Sir Humphry Davy's safety lamp, the Bude light, and the oxyhydrogen or lime light. Mr. Squire remarked on the fact, that for the application of gas for purposes of illumination, for the safety lamp, and for the vast improvement of the Bude light, the world are indebted to Cornishmen. It is interesting to state that Murdoch's first apparatus for gas making, used at Radnor, was manufactured at Perran Foundry.—Mr. Squire might, also, have added that the first clear development of the laws of combustion were made by John Mayow, also a native of Radnor. Several other applications of scientific principles were noticed, particularly the various processes for producing instantaneous lights, Marsh's apparatus for detecting arsenic, boiling fluids at a diminished temperature, as used in sugar refining, &c., all of which were illustrated by very successful experiments. In conclusion, a series of geological and astronomical scenes were exhibited by means of the Bude light adapted to the magic lantern.

DEBIL AND DASHWOOD RAILWAY.—This line, we are informed, is progressing very favourably; a further contract was let on Friday week, for the execution of that part of the line between Malabide and Buntingford, about seven miles and a half—making, with the other portions of the line now under contract, about eighteen miles; the remaining portion of the work is represented as light and easy of construction.

ANDREW SMITH'S PATENT WIRE ROPES, for standing rigging, lighting conductors, strapping of blocks, mining, railway, and general purposes; about half the size and weight of hemp ropes, and 25 per cent. stronger. Testimonials to that effect, with specimens, may be seen, and every information obtained, at the office, 27, New Broad-street, city; manufacturer, Mill-wall, Poplar; and also of the following agents:—
 Robertson and Co., 12, Grove Piazza, Liverpool.
 Matthews Dunn, Newcastle-on-Tyne.
 Joseph Borthway, Plymouth.
 John Thompson and Co., Wigan.
 J. T. Trevelyan, Dublin.
 Thomas Mowbray and Son, Wicklow.
 Caden and Young, Belfast.
 James Kibb and Co., Glasgow.
 James Gunn, Leith.
 J. M. Beattie, Clements's-lane, High-street, Dundee.

ANDREW SMITH'S PATENT WIRE ROPE.
 This rope has been in use for standing rigging in her Majesty's Navy, and in a great number of merchant vessels, for upwards of six years, and is giving the highest satisfaction; the rope is also employed in various mines and railways in different parts of the kingdom.

IRON ORE.—The Advertiser is ready to contract for the supply of a quantity of IRON ORE from the PENMORFA IRONSTONE QUARRIES, at a moderate rate, delivered on board a vessel at the port of Portmadoc, north Wales. The stone may be seen by application at the works, near Tremadoc; and for treaty apply to Mr. Smith, agent to the Cofn-du-Slate Company, Cardf. 1790.

ON SALE, a new 12-horse high-pressure STEAM-ENGINE, with or without boiler. For price, and other particulars, apply to George Firth, Iron merchant, 80, Upperhead-row, Leeds.

TO COAL PROPRIETORS, ENGINEERS, AND OTHERS.
TO BE SOLD, BY PRIVATE CONTRACT, FOUR excellent double-acting condensing STEAM ENGINES, of 2, 11, 6, and 4-horse power respectively; the whole are in excellent condition, and have been recently at work. For further particulars, or to treat for the purchase, application may be made to Mr. Woodhouse, colliery view, Orersall, near Ashby-de-la-Zouch.—Oct. 12.

MEETINGS OF SCIENTIFIC BODIES.

SOCIETY.	PLACE OF MEETING.	DAY.	HOOR.
Royal Botanical	Regent's-park	Saturday	4 P.M.
Statistical	4, St. Martin's-place	Monday	8 P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Linnean	Bohn-square	Tuesday	8 P.M.
London Electrical	Adelaide-street	Tuesday	8 P.M.
Chemical	47, Leicester-square	Tuesday	8 P.M.
Society of Arts	Adelphi	Wednesday	7 1/2 P.M.
Geological	Somerset House	Wednesday	8 P.M.
Royal	Somerset House	Thursday	8 P.M.
Antiquaries	Somerset House	Thursday	8 P.M.
Botanical	20, Bedford-street, Cor.	Friday	8 P.M.
Royal Asiatic	14, Grafton-street	Saturday	2 P.M.
Westminster Medical	Kewer Hall	Saturday	8 P.M.
Mathematical	Crispin street, Spitalfields	Saturday	8 P.M.

PUBLIC COMPANIES.

COMPANY.	MEETINGS.	DATE.	PLACE.
Imperial Brazilian Mining Ass'n.	London Tavern	Nov. 14	2.
New Zealand Company	Office	Nov. 17	1.
Rhymney Iron Company	7, Lawrence Poultry hill	Nov. 17	1.
British Iron Company	London Tavern	Nov. 19	12-1.
Hibernian Mining Company	52, Lower Dominick-st., Dublin	Nov. 19	1.
South-Eastern Railway	London Tavern	Nov. 25	1.
London and Blackwall Railway	21, Nov. 16	Office	
Alton Mining Association	11, Dec. 20	34, Broad-street-buildings.	
South Australian Company	24, Dec. 1	Glyn and Co.	
Cambrian Iron and Steel Co.	24, Dec. 29	London Joint-Stock Bank	
Irish Waste Land Im. Society	11, Jan. 18	As former calls.	
Irish Waste Land Im. Society	11, April 18	As former calls.	

NOTICES TO CORRESPONDENTS.

TALACRE COAL AND IRON COMPANY.—It is only justice to Mr. Hornidge, whose name appeared in our last week's report, to state that the representation made by him of the refusal on the part of the Dublin directors to allow the books and other documents to be delivered up, was borne out by the fact that Mr. M'Master, one of the Dublin board (who, in his letter to Mr. Ashurst and Mr. Taylor, repudiated such a charge being alleged against them), did, as chairman of the board, sign the resolution instructing Mr. Russell, the secretary, who brought the several documents to London, allowing of ready access, but by no means that they should pass out of his possession. Truly these gentlemen are a queer set. This explanation is necessary to set Mr. Hornidge right, by showing that Mr. M'Master was in the wrong.

Acute.—We have already devoted so considerable a space to an exposition of the various transactions of the Talacre Company, that we must in future confine the insertion of communications to those containing matters of something more of a novel character than the two last forwarded by our correspondent. We think, on reflection, he will agree with us, that no further good can at present result from a mere repetition of the charges so frequently urged against the directors, and with which our readers must be, as, indeed, we are, heartily tired; we shall, however, be happy to hear from "Argus" when anything new may transpire.

M. S.'s investigation of Mr. Knox's problem in our next.

MINERAL WEALTH OF SOUTH AUSTRALIA.—We have received the communication from Adelaide, but, in the absence of the specimens, which have not yet come to hand, we must defer its insertion.

We are compelled to postpone the Table of the Sales of Ore at the Cornish and Swansea Works for the last three years, showing the increase or decrease in the returns from each mine, until our next, when it will appear, together with explanatory observations.

Received this morning.—R. Finlay—R. Tregaskis—U. Thompson—"R. B. W."

M. S.—We hope next week to be able to visit the district in South Wales noticed by our correspondent.

HAM.—We are without the expected communication, and cannot well account for the silence observed.

In consequence of the numerous applications made to the Editor on subject of Advertisements which have appeared in the columns of the MINING JOURNAL, with reference to articles or materials used in the working of mines and the construction of railways, arrangements have been partially effected, whereby all information necessary can be acquired on application of the office of the Journal, in some reference may be made to the various models, plans, drawings, and specifications, and where convenient may be seen, if being intended to devote a room to that express purpose.

It is further announced, that measures are in course of being taken for rendering the office of the MINING JOURNAL the medium of acquiring information on all matters connected with mineral property, where plans and particulars of mines and mining materials for disposal may be consulted and obtained. Experienced agents in the several mining districts will undertake surveys and furnish plans, sections, and reports, on mineral property and mining undertakings.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, NOVEMBER 13, 1841.

Our attention has of late been so much occupied with our home mines, and the "doings" of certain folks residing in the City of London (where they are ably represented by Mr. Alderman THOMAS TALACRE WOOD) due north, or nearly so—embracing the busy B's, who appear still to be gathering honey although the summer is past, while the Northern Coal Mining Company is still flustered by their very able (in one sense) viewer and director—that we have in some measure lost sight of other subjects more deserving attention, although not of immediate moment. It is not of the one or other of these said "doings" that we propose making any remarks on the present occasion, but to direct attention more especially to the mineral resources of a district hitherto only partially proved, but which, from the reports before us, promises to be of aid to this country, on which it is dependent, in providing for itself by its own resources.

We are indebted to Mr. A. GERNER for several communications on this subject, and have awaited a further communication from that gentleman, with the view, however, of bringing the subject more prominently forward, in its absence we avail ourselves of such information as we have acquired, which will, doubtless, be read with interest. It is, indeed, but a few years since that mining undertakings in New Brunswick would have been "scouted," and

looked upon as the act of a visionary; yet with the little enterprise which has been displayed (to take one instance of the progress made), we find that 400 chaldrons of coal per diem have been shipped from Picton alone for the United States. The Government have also, as we are informed, lately granted several "mining leases," and a new spirit seems to have sprung up, aided, no doubt, by the capital and enterprise which is ever to be found in the Mother Country.

It is true, that in all new countries the progress of mining operations is slow, and this arises from the difficulties attending the discovery of useful ores, and the outlay often required to bring them into profitable employment; while it is certain that the elevated condition of Great Britain is to be attributed to her vast and almost inexhaustible mineral deposits. From her manufactures are supported, her commerce sustained, and her power increased. It is equally certain that, in other parts of the world, and more especially in Nova Scotia, there are extensive coal-fields, with iron and other important metals in abundance; but, in order to bring these objects into successful operation, both money and labour are required; while it cannot be expected, as our readers are well aware, that every mining project can be successful—this has never been the case. Of two coal leases obtained from the Provincial Government of New Brunswick, during the past year, one, we are informed, must prove abortive, from the lack of that knowledge which is so necessary to the miner, and which should, in every instance, be secured before expensive operations are commenced. Like all important and new undertakings, the geological exploration now in progress in that country has been, we are given to understand, condemned by many well-meaning persons; but we are glad to find that it is gradually opening a field of enterprise—it is bringing foreign capital into the province, and making the true character of the country better known. Such, in substance, are the remarks of a correspondent, who has more particularly directed our attention to this province, and to which we have oft wished to refer, having been favoured with several communications from Mr. A. GERNER, whose opinion on the mineral resources of New Brunswick may be gathered from the following report submitted to the Governor, with a copy of which we have been favoured:—

St. John, 27th Sept.

Having recently made a geological examination of the county of Kent, and a part of the county of Northumberland, I beg leave to transmit a brief report of my explorations, agreeably to the request of his Excellency the Lieutenant-Governor, for whose satisfaction it is submitted. Information has been received that indications of coal had been seen at the Tedish River, in the county of Kent, near the site where the probability of its existence had been previously noticed. Upon an examination of the banks of the river, the outcropping of coal measures was discovered, with a superficial stratum of coal eight inches in thickness. The occurrence of the usual shales, with a perfect and continuous stratum of coal, renders it almost certain that there are far more extensive deposits beneath, which, from the horizontal position of the strata, and thick covering of detrital matter, do not appear at the surface. Another outcropping of coal was discovered by my son, on a branch of the Cooze River, in the county of Kent, and within two and a half miles of the harbour. The superficial coal stratum at this place is situated in the bed of the stream, three feet beneath the water, which renders its ascertainment difficult, unless the rocks were bored. It appears, however, to be sufficiently thick to be worked advantageously, and the inhabitants are now preparing to raise a quantity of it for domestic purposes. Outcroppings of coal also appear on the Ructsche and Richebucto Rivers; but the situations where the upper coal stratum appears in this manner are too numerous to admit of having their particular details given on the present occasion. The discovery of coal in this part of the great New Brunswick coal field is important in regard to the proximity of this mineral to the site where the anticipated canal to unite the waters of the Bay of Fundy and Gulf of St. Lawrence will probably be fixed. The whole of the county of Kent is situated on this vast coal field, which, in this quarter, presents a broad level surface, not elevated, upon an average, more than twenty five feet above the level of the sea. A deposit of bog iron ore was found at Richebucto, and which might be worked with the coal in its vicinity. Having examined the banks of the principal streams in the county of Kent, I next proceeded to the exploration of the Miramichi River, in the county of Northumberland. Coal exists here also, and this strata appears about five miles below Chatham, and on the harbour River. It also appears in the banks of the south-west branch of the river, and numerous other situations near Boldown, the Bacons stream, and others. The rocks of this coal field will supply excellent freestones, flagging-stones, and grindstones. They abound in the remains and impressions of plants, which are analogous to those now growing within the tropics, and such as could only have flourished in a warm climate, being entirely different from any now living upon the surface beneath which they are buried.

The strata in general are covered by a deposit of detritus and beds of clay and sand, the whole averaging about four feet in thickness. The soil in general is light and sandy, and there are extensive tracts of a good quality of land. Although the surface is capable of cultivation, notwithstanding there are occasional Cariboo bogs, and sandy barrens, and for settlement. An immense tract of country bordering upon the Miramichi and its branches was overrun with devouring fires in 1825. The groves of pine were robbed of their foliage, and still stand in leafless trunks amidst the underbrush and other kinds of wood which are destined to succeed them. At this part of the country is low level, the rivers are navigable some distance from their mouths, and the streams are not broken by falls and rapids so as to prevent the passage of boats and canoes. From the south-west branch of the Miramichi, we descended the Nashua to the River St. John, and found that all the rock along this stream belongs to the great coal field, the boundaries of which will be reported when its north-western limits have been ascertained.

Some of the most extraordinary geological facts in this division of the country are seen in the evidences of changes of level. At Bathurst the country has been uplifted, while at the mouth of the Miramichi the shore has been depressed within a comparatively recent period, and large peat bogs are now buried beneath the sea. A visit was made to a mining establishment of an English company at Bathurst, conducted by Mr. Stevens, a most enterprising individual. The first efforts of the company were directed to the mining of copper ore, veins of which are evidently contained in the slates of Tete-a-tete River. At present the mining of manganese is carried to some extent, and powerful machinery has been erected with sufficient water power, which will be directed to cleaning the ore, and other operations. The mine of manganese is situated eight miles from the town of Bathurst. The ore occurs in veins and disseminated masses in clay slates. Fifty tons were ready to be shipped at the time of my visit. The sterling price of the ore is stated to be 10s. per ton. This is evidently a mining district, and one of great importance to the country. I have also analysed two kinds of marl found in the county of Gloucester. They are superior in quality, and will soon be applied to agricultural purposes. The counties of Northumberland, Gloucester, and Kent are evidently rich in mineral wealth, and I regret that my examinations could not be extended to them this season. My object has been to complete the geological exploration of all the southern and eastern parts of the province, as far northward as the main south-west branch of the Miramichi and Woodstock, which I am in hopes of completing before the winter opens. I have thus given a brief outline of my last exploration, the details of which must necessarily be omitted until the general report for the season is made, which, with the present communications, I sincerely hope will prove satisfactory to his Excellency.

With another extract from a report made by Mr. GERNER, in August last, to the Government, we shall for the present close our notice.

The most important examinations have been those of three several deposits of excellent iron ore, on the farms of Colonel Robinson, at Woodstock. This ore was discovered by the inhabitants several years ago; it is a compact red hematite which will yield from 30 to 40 per cent. the united thickness of the beds is seventy-five feet. The situation of the ore is the original forest of the country, and its inexhaustible quantity offers every advantage for the manufacture of iron, and being placed on the American frontier, and high road to Canada, its value is much increased.

The importance to be attached to the discovery of so vast a body of hematite, situated, as it appears to be, in a dense forest, yielding the fuel for its reduction, is such as will, doubtless, attract the attention of the capitalist; at the same time we may observe, that we are not aware, except under any patented process never yet put in practice, that hematite can be used otherwise than as a mixture, and that pig-iron has not hitherto been produced from that ore alone. It is valuable when mixed with clay ironstone, and renders the poorer stone available, which otherwise would, in many cases, be valueless; but we do not know of any practical operation having been carried out successfully. We have heard of many experiments, at home and abroad, and of many patents—perhaps some of our correspondents may on this point furnish information of which we are not in possession.

IMPROVEMENTS IN THE MANUFACTURE OF IRON.

(Specification of a patent granted to Joseph John Guest, of the Dowlais Iron Works, Glamorgan, Bart., and Thomas Evans, of the same place, agent, for certain improvements in the manufacture of iron and other metals.—From the Repository of Patent Inventions.)

The nature of this invention consists in forcing damp steam into the melted mass of metal, whatever it may be, contained in the melting furnace used for melting the said metal in, and particularly into the melted iron in refining and puddling-furnaces, as also in a certain paste made with the said steam and melted cinders, and applied as hereinafter explained; and the following is a description of the manner in which the said invention is to be performed, with reference to iron, reference being had to the drawings, and to the figures and letters marked thereon:—

DESCRIPTION OF THE DRAWINGS.

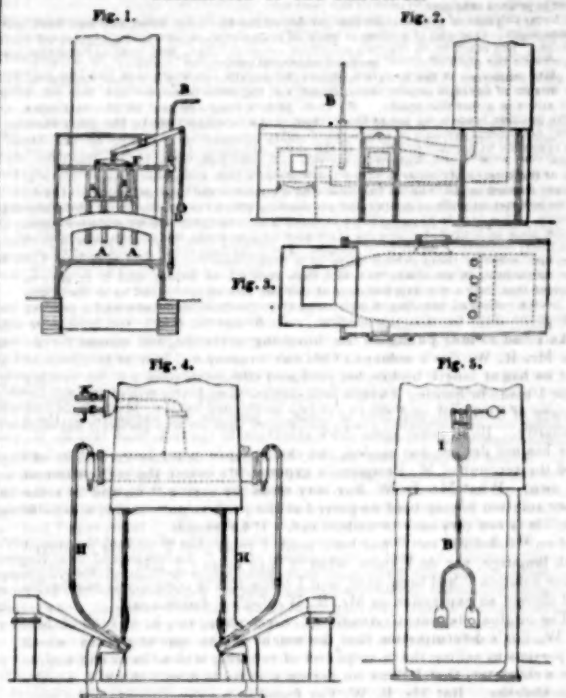


Fig. 1 represents the front elevation of a puddling-furnace. A jet or jets of steam is or are introduced into this furnace, in contact with the melted iron, while in a state of what is usually called fermentation; the steam is conducted through the roof of the furnace, as here shown, through wrought-iron telescope tubes, sliding one over the other, by means of which tubes we are enabled to convey the steam very near to the surface of the fluid iron to be acted upon; the success of the operation depends much on bringing the steam in close contact with the melted iron; therefore, any other plan of introducing the steam close to the iron may be found to answer the same purpose—the steam that we have used for our experiments has been supplied from the ordinary engine-boiler; but, as shown in the case of the refinery-furnace, Fig. 4, we purpose generating the steam in the chimney of the furnace; the pressure we have used in the puddling-furnace has been about 15 lbs. to the inch, through four pipes, A A A A, three-quarters of an inch in diameter, which answer very well during this process, in order to keep the sides, bridge, and bottom of the furnaces from burning. We introduce a quantity of steam upon the fluid cinders as soon as the heat is drawn until the cinder becomes of the consistency of paste; we then, with a rabble or rake, rake as much of that paste, and place it against the back, sides, and bridge of the furnace, as may be required, to fill any cavity that may have been burned during the previous heat of iron; the use of the cinders in a state of paste for repairing the bottom and sides of the furnace keeps the iron quite clean and free from dirt, which is always found from the use of clay and limestone, as at present used. The tubes, A A A A, which pass through the roof of the furnace, slide over the tubes B B B B, forming thus telescope tubes, and they are raised or lowered according to the quantity of fluid metal in the furnace, by means of the lever, C, and handle, D, by which it is worked; the dotted line shows the height of the fluid metal. E is the steam-pipe; F the connecting-pipe, for communicating alike to all the four telescope tubes; and G is a condensed water-pipe.

Fig. 2 is a side elevation; and,

Fig. 3 a plan of the puddling-furnace.

And now, as to the refinery-furnace, we introduce a jet or jets of damp steam, after the pig-iron is melted, through the same aperture as the blast; the quantity and temperature of the steam must depend upon the quality of the pigs to be acted upon; we use four pipes of half an inch in diameter, with a pressure of 20 lbs. to the inch, and find it answers our purpose; the steam is by us generated in the chimney of the refinery-furnace, but it may be conveyed from the engine-boilers.

Fig. 4 represents a side elevation of our steam apparatus, shown in two of the four tubes or apertures of a refinery-furnace; and

Fig. 5 another view of it. In Fig. 4, H H, are two of the steam-pipes, the steam being generated in the tube or cylinder, I, in the flue or chimney, which cylinder, I, is filled with water—J being a water-feed pipe, and K a pipe on which to place a safety-valve.

Now, whereas we propose to apply steam in a similar way in the melting of alloys of copper and iron, and of tin and iron, which alloys can be made in refinery and puddling-furnaces by it; but in particular we apply our said invention to the manufacture of iron, whereby we obtain a better material with greater economy. And we claim as our invention the use or application of steam forced upon or into, or in contact with, the melted iron, in refinery or puddling-furnaces for the manufacturing of the same. And also the similar use of steam in the process of melting or manufacturing alloys of copper and iron, and of tin and iron, in such furnaces; and also the application of steam to fluid cinders, as hereinafter described, to produce the paste aforesaid, and the use or application of the said paste, as aforesaid.

ROYAL BANK OF IRELAND.—This bank held their fifth annual meeting on Thursday last. From the report it appeared that the Paid-up capital is £2,000,000. Net profits £114,391 14 9. Two half-yearly dividends of 5 per cent. 10,432 10 0.

Surplus on the year £4,157 10 9. To liquidate "bank premises" account £191 1 1. To reserved fund, being one-quarter the net profits £1,642 18 8—£4,157 10 9. Last amount of reserved fund £16,574 1 8. Add the above £1,642 18 8—£18,216 9 6.

Amount of present reserved fund £18,216 9 6.

TABLE SHOWING THE COMMERCIAL VALUE OF COALS.—The price of small Newcastle coals evaporating 7-68 lb. of water per lb. of coals was, in 1840, 14s. 6d. per ton in the Pool; this price is taken as a standard, and the value given is according to the evaporative power of the different varieties:—

	Water evap. per lb. coals.	Val. per ton in Pool.
The best Welsh	9.400	£7s. 11d.
Southdown	9.014	17 0
The best small Newcastle	8.524	16 1
Average small Newcastle	8.074	15 29
Average Welsh	8.040	15 29
Coal from gas-works	7.206	14 11 1/2
Coke and Newcastle small half and half	7.007	14 0
Welsh and Newcastle, mixed half and half	7.007	14 0
Durhamshire and small Newcastle, half and half	7.010	14 0 1/2
Average large Newcastle	7.004	14 0 1/2
Durhamshire	6.772	13 29
Bythe Wain, Northumberland	6.000	12 0 1/2

—Published on the Cornish Register.

ORIGINAL CORRESPONDENCE.

ON THE CHANGES PRODUCED BY ELECTRIC ACTION ON MINERALS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Your readers conversant with the *Mining Review*, will probably remember that four years since (*Mining Review*, No. x. p. 227) I quoted at length the experiments of M. Berquerel; but Mr. R. W. Fox, though so warmly excited now, has, until this time, allowed the quotation to pass without remark. I may not have been very clear in my reference to it, but as Mr. R. W. Fox's aid has not rendered it more intelligible, I beg to be allowed to repeat the quotation.

We take a tube, bent into the form of the letter U, having its transverse part filled with clay moistened with water. * * * A saturated solution of nitrate of silver is poured into one branch of the bent tube, and into the other a solution of the hypo-sulphite of potash, obtained by decomposing in air some protosulphure of potassium. One end of a wire, of pure silver, is then plunged into each of them. The reaction of the two solutions on each other, and that of the hypo-sulphite on the plate of silver, produce electrical effects; in consequence of which, the plate immersed in the nitrate becomes the negative pole of a voltaic apparatus. The nitrate of silver is slowly decomposed, and the plate immersed in it is covered with silver in a metallic state. * * * In proportion as the liquid evaporates in the positive branch we see at the bottom of the tube, and above the clay, some pretty octahedral crystals of sulphure of silver formed on the silver. These crystals resemble in appearance those of the same substance that are found in silver mines. * * * Let us substitute for the solution of the nitrate of silver a solution of the nitrate of copper, and for the plate of silver a plate of copper; there is quickly formed in that side of the tube which contains the hypo-sulphite of potash, a double hypo-sulphite of copper and potassium, which crystallizes in very fine silky needles. This double hypo-sulphite is quickly decomposed, and we obtain at last, on the plate of copper, flat opaque crystals with triangular faces, two millimetres (one thirty-seventh of an inch) in length. These crystals are of a metallic grey colour, and some of them exhibit tints of a bluish cast; their powder is blackish. They are soluble in ammonia, to which they give a blue colour, and it is easy to perceive that they are composed only of sulphur and copper. Hitherto there has not been a sufficient quantity of this sulphure collected to determine the relative proportions of the metal and the sulphur. (M. Berquerel, *Traité* II. 316-317, 1835.)

As I had so long published the foregoing quotation, and placed by its side Mr. R. W. Fox's account of his own experiment, it must be apparent that he has at length broken his profound silence to seize on the trifling error I made in quoting it extemporaneously before the Royal Geological Society of Cornwall, and thus to elude, if possible, an exposure of their similarity. But I must again draw attention to the fact, that Mr. R. W. Fox has not denied, but evaded, the charge made in my last—that he had read the account of M. Berquerel's experiments before the publication of his own. What Mr. R. W. Fox may mean by saying "instead of some other solution having been employed at the positive pole, it was a definite salt," it is not very easy to understand. If he intends to imply that I had said an "indefinite salt" had been used, I reply that I neither employed such language, nor do I know what it may mean; I said "some other saline solution" had been used, and I think this is certainly as intelligible and correct an expression as Mr. R. W. Fox's "definite salt."

The original statement (*Annals of Electricity*, vol. II. p. 115) of Mr. R. W. Fox's determination that the weight of the copper pyrites (which he persists in calling the bi-sulphure of copper), is of so loose and unprecise a character, that I think no person who reads it will think it worthy of confidence. But Mr. R. W. Fox found in his experiment on the production of vitreous copper on copper pyrites, that "care must be taken to throw into the cell pieces of the sulphate of copper from time to time, as it seemed to be required" (*Annals of Electricity*, vol. I. p. 134). Now, let me ask him, for what purpose did this "sulphate of copper" seem to be required? Why was it necessary to throw it "into the cell from time to time"? How was that thrown in at one time disposed of so that more became necessary at another? But Mr. R. W. Fox asserts that some of my experiments are not electrical. Now, if, for argument's sake only, it be admitted that they are not, let me ask, will the admission suit his purpose? If they are not electrical, it must follow that the same changes take place without electricity as with it—Will this help his theory?

Mr. R. W. Fox's object in his first publication on this subject was to show that his experiments had a practical tendency, and afforded remarkable elucidations of the conditions under which the metals and their ores occur in lodes. But of this he has for a long time said nothing, because, I presume, he is utterly hopeless that he can establish what seems in equally ill odour with practical miners and scientific geologists. I, however, feel that the original subject of difference ought not to be thus evaded, and I am ready to repeat the objections I have already urged to Mr. R. W. Fox's theory respecting the origin of our mineral veins, and to bring forward many more with which more extended examinations have supplied me.

Mr. R. W. Fox seldom likes to play his part alone—whenever it is practicable he calls for help, and I admit that he may receive powerful aid from Mr. Hunt; but as that gentleman's communication to the Royal Institution of Cornwall has not yet been printed, and as his letter in your last mentions only the use of copper pyrites and murate of barytes, I forbear discussing it until I know what other ingredients were used, and the manner in which all of them were arranged. This deficiency of evidence Mr. R. W. Fox must supply, or the able assistance of Mr. Hunt will not in this respect avail him. I remain, Sir, your's, &c.,

Clarence-street, Penzance, Nov. 9.

W. J. HENWOOD.

NORTHERN COAL MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I observe the letters of your correspondents, as also your own remarks, upon the connection of Thos. Forster with the Northern Coal Company and the Norwich directors; now, Sir, I beg to express my feeling, that since such a variety of prejudicial rumours have got into circulation, I do not see how the company can dissolve their intended meeting without directing an inquiry, which is now rendered necessary for the justification of the directors as well as Mr. Forster. Until that is done, I think it would be the greatest injustice to Mr. Forster for any gentleman in or out of the company to withdraw that confidence which they have hitherto reposed in him. I remain, Sir, your's, &c.,

Sunderland, Nov. 10.

A SHAREHOLDER.

TALACRE COAL AND IRON COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—On being shown a report of the late meeting a short time ago, I was much surprised at seeing the assertion of that arch humbug Shoo-bridge, "that he knew no person of Kegworth." Why, Mr. Editor, this person is closely connected—in fact, married his wife at Kegworth. Well may he be designated "Mawworm" Shoo-bridge, for never was that hypocritical character played to more perfection, or greater advantage. Under the cloak of religion he has insinuated himself into the confidence of many unsuspecting individuals, professing an anxious desire for their worldly interests, as well as their spiritual welfare, led them to invest their hard-earned earnings (under the mask of friendship) in the nefarious and deeply-plotted scheme—the Talacre Coal and Bubble Company. This is not all I could say about this chapel-going, missionary-presiding personage, but my object in this communication is merely to prove the falseness of the assertion referred to. I remain, Sir, your's, &c.,

Kegworth, Leicestershire, Nov. 8.

T. H.

ALDERMAN THOS. WOOD—THE TALACRE COMPANY—AND THE DIGNITY OF THE CITY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—For the sake of truth and integrity I wish to direct the attention of the Common Council to the conduct of one of their representatives in the City Council, and the Court of Aldermen to one of their colleagues. Charges of a public nature (which, in the absence of denial, we may presume to be correct) have been made against Alderman Thomas Wood, and, if correct, the conduct of that gentleman would seem to render him unworthy of holding any civic dignity, and more especially that which is next to the first magistracy of the chief city in the world. It is a matter quite as much affecting the public at large as it is the mining interest, and must be considered to touch the credit of the City, that the Alderman next in seniority to our respected head of the corporation should have lent his name, or, rather, lent his titles of Alderman and Sheriff, to extend a system of imposition, which, as appears from your columns, is likely to entail ruin upon those who have trusted to the reputation and character of uprightness, of which those titles are usually the guarantee.

I take little interest generally in mining, or, shall I say, in speculative matters, but I take much interest in the preservation of the good faith and honour for which the citizens of London have been so much distinguished. I think much discredit is likely to be cast upon us if we suffer this case to rest a blot upon our ancient escutcheon, without evincing by one public censure a determination to vindicate ourselves from the charge of allowing imposition to be practised with impunity. It is im-

perative on the gentlemen of the Ward which Alderman Thomas Wood represents that they demand an explanation; and it is equally imperative on the Court of Aldermen to mark the sense they entertain of their own dignity, and the justice due to the public, by a full and impartial investigation into charges so seriously reflecting upon them as a body.

I remain, Sir, your's, &c.,

London, Nov. 9.

A COMMON COUNCILMAN.

ON MINE SURVEYING—SOLUTION TO PROBLEM IN THE LAST JOURNAL.

TO THE EDITOR OF THE MINING JOURNAL.

CONSTRUCTION.—Draw A B along the level of the coal, and A C down the dip perpendicular to A B; then let a horizontal quadrant, A B D, be applied over this plane of the coal, having the line A B common to both, and draw A F on the upper plane, making with A D an angle D A F = 71°—50'; and let D and F be points in the horizontal plane, from which, if plummetts are suspended, they will drop on C and E—then from F in the horizontal plane draw F G parallel to A B.

ANALYSIS.—We now have A D = A F = radius, and D C = sine ∠ D A C and E F = sine ∠ E A F, also A G = cos. ∠ F A G. It is also evident that the perpendiculars to the upper plane, at the points F and G, are equal to each other—suppose = x.

SOLUTION.—By similar triangles, A D : C D :: A G : x; or,

$$\frac{CD}{AD} = \frac{AG}{x}$$

hence, sine ∠ C A D × cos. ∠ F A G = sine ∠ E A F, the formula required;

and, sine 22° × cos. (71°—50') = sine 20 deg. 28 min., the case proposed.

PROBLEM.—I am at present constructing a very large model (6 ft. by 5 ft.) of a colliery, and have the surface represented in all its undulations, fences, &c., in wood, and erected in its proper position on four posts, similar to a table. The coal seams (nine in number) are represented by boards put in beneath the surface at proper distances; the coal dips very much, and I am required to transfer the boundary fences of the surface on to the plane of each coal seam—required a correct method of doing so.—Also, required a practical method of laying down the diallings on said planes.

Allow me, Mr. Editor, to thank yourself and correspondents for the attention you have paid to my previous communications, and trust that such like discussions will benefit the public and increase the circulation of your useful paper.

Penton, Potteries, Nov. 9.

GEORGE KNOX.

P.S.—You will notice that of the five solutions published of my problem not two of them agree in their results; this circumstance alone shows that the subject of mine surveying is by no means "exhausted," as one of your correspondents rather vainly asserts.

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I find in your valuable Journal of the 6th inst., by the answer given by Mr. Knox to his own question of a former date, that my "guessing" failed to produce that which was right; and I suppose it was no wonder, as I was not the only one that did not understand the question fairly, for I see out of all the attempts made by your correspondents there are not two that come to the same conclusion. But if you will allow me to "try again" I shall feel very much obliged, for after I have taken anything into my head I do not like to budge it before I find it is of no value whatever.

The following is an attempt at a solution of the "general question" put by Mr. Knox.—Let the annexed diagram represent the two triangles, B A C the dip, and C A E the deviation in bearing from the main dip. Suppose the radius A C be 1, the sine of the angle (22 deg.) would be B C (.37461), then the radius A E of the triangle C A E would be 1, and the cos. of the ∠ 21 deg. would be A D (.93356); from which it is evident that the cos. A D of the triangle E A D is the section of the triangle D A O. Then, by Proportion—Radius A C : sine B C :: sec. A D : sine D O = .34972—therefore sine D O is the sum of the angle required; then, if the radius be 1, and sine .34972, the ∠ required will be 20 deg. 28 min.

I remain, Sir, your's, &c.,

Bickleigh, near Plymouth, Nov. 9.

A MINER.

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Amongst the different results of your various correspondents, in answer to Mr. Knox's question of the 6th inst., I venture to send my solution of the same, as follows:—

Beginning at the bottom of K incline, we have—

Bearing.	Dis. in.	Ang. hor.	Hor. dis.	North.	South.	West.	East.
N 100° E	100	0	200	0	0	0	0
S 45° E	150	90	106	0	0	0	0
S 74° W	2400	224	225	0	0	0	0
N 204° 30' W	140	30	109	0	0	0	0
N 314° 15' W	247	44	240	0	0	0	0
N 414° 6' W	126	74	124	0	0	0	0
N 234° 7' W	126	23	125	0	0	0	0
N 274° W	127	24	126	0	0	0	0

Therefore, having two sides of a right-angled triangle given, we find the third to be 1469.27, which is the horizontal distance between the end of K workings and the end of A workings. The fall from A shaft to the end of workings is 959.79, to which add 119 yards, depth between seams = 540.90, gives a total of 1509.69; from which deduct fall from A shaft to end of K incline = 257.73, leaves the depth between K mark and A mark = 1242.96. Hence we find the distance sought on the incline to be 1921.99, and the angle with the horizon 40 deg. 41 min., and angle of intersection with the strata 18 deg. 41 min.

I remain, Sir, your's, &c.,

Newcastle-on-Tyne, Nov. 10.

M. S.

ON MINE SURVEYING.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I send for insertion (if you think it worthy) the following solution of Mr. G. Knox's question; also a general formula for solving such questions.

General Formula— $t = e$

R

Where R = radius, or 1; t, tangent of the angle of declination of the dip line; e = cosine of the angle contained between the dip line and bearing whose declination is required; and d = tangent of the required declination. Or it may be resolved into a proportion, and worked by logarithms, thus:—As radius 10-0000000, is to tangent of ∠ 20 degrees, 9-5841774, so is cosine of ∠ 22 deg., 9-9671659, to tangent 19 deg. 36 min., 9-5513433—which example is the solution of Mr. Knox's question inserted in the *Mining Journal* of the 6th inst., giving 19 deg. 36 min. nearly for the declination required.

QUESTION.—Given three sugar holes to a seam of coal, A, B, and C, in a field parallel to the horizon; the depth of A is 50, B 50, and C 72 yards; their distances are, from A to B 291, from B to C 155, and from C to A 184 yards respectively; bearing per compass from A to B 74 deg. W. of N. Required the bearing of the dip line, also its angle of declination from a line parallel to the horizon. I am, Sir, your's, &c.,

Nov. 10.

A COAL MINER.

THE SMOKE NUISANCE.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—We shall feel obliged by being allowed an opportunity, through the medium of your paper, to contradict a statement made in the publication of Saturday last. In notice of a conversation that took place at the meeting of the Birmingham Street Commissioners, respecting the nuisance arising from steam-engines, Mr. Turner is represented to have said that "Mr. Munst had offered a premium to Mr. Dicks, agent for Mr. Williams's invention, if he would undertake to cure his chimney; but he had declined his offer." We can assure you that the offer in question

not having yet reached us, in any way, it is impossible we could have refused it; and so contrary is our feeling to such a proceeding, that it will afford us much pleasure not only to accept the offer when made, but also to present the said premium, when obtained, to the public charities, with something additional from ourselves. We are, Sir, your's, &c.,

Manchester, Nov. 8.

DICKS AND CO.

IMPROVEMENT IN STEAM-ENGINES.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—So much interest being attached to the important subject, so ably treated by Mr. C. W. Williams in the following article, induces me to request its insertion in your columns; the paper (of which this is an abstract) was read by the talented author at a late meeting of the Liverpool Polytechnic Society, and should you deem this worthy a place in your Journal, I shall have pleasure in transmitting similar notices, as the subjects may be brought before the society. Your's, &c.,

Liverpool, Nov. 6.

J. JOHNSON.

INCREASING THE EVAPORATIVE POWER OF BOILERS.

Mr. C. W. Williams, who was provided with a number of working models wherewith to illustrate his views, addressed the meeting on the important subject of "Increasing the Evaporative Power of Boilers," developing an interesting discovery of his own, which (already practically tested) will be extremely valuable as effecting a more rapid generation of steam, without increasing the size of the vessel, or the requirement of additional fuel. The question, he said, involved the improvement of our boilers by a very simple contrivance, whether as applied to land engines, or to the advancement of steam navigation. There were two leading considerations in the application of fuel, which were, unhappily, confounded; one the generation of heat, and the other its application. The first appertained more peculiarly to chemical science, and the second to mechanical appliances. The object in view was to transmit the greatest possible amount of heat for the generation of steam, with a given quantity of fuel. Heat was imparted by two distinct media—namely, radiation and conduction. By radiation heat was conveyed to bodies not placed in contact, as was evinced by placing the hand pretty close to the flame of a candle. By conduction heat was conveyed by metal or other substances not consumable. In the heating of boilers, both modes were necessarily operative. In radiating the heat evolved proceeded in direct lines, or radii, from the combustion to the boiler or other body exposed to it. If a thermometer were placed with the ball near the caudle, the mercury would rise by radiation; but if placed immediately over the flame, the heat would be greater, but different in the mode; for, in this case, it was not fairly radiation, but a compound medium, radiation and the heated and ascending gas being combined. The speaker then exhibited the model of a boiler, with its tortuous flues, through which the several gases passed; and expressed his conviction that nine-tenths of the heat in marine and land engines boilers was immediately received from the furnace and smoke-bed, and not from the heated gases, which might be made more available to the steam end by an improved construction of boiler. The general opinion of parties working steam-engines was, that to increase the size of the furnace would add to the heating of the whole boiler; but this, he considered, was a treating the boiler with great neglect, for the object could be accomplished without such increase of the furnace. The means of conducting heat to water in boilers had been much neglected, reliance being almost solely placed on increasing the heating surface of the flues. His plan was to insert a number of iron pins through the plates of the boiler, one end of them projecting into the flue, and the other into the water in the boiler. These pins, exposed at one end to the heat in the flue, acted as powerful conductors, through the boiler plates, of the heat into the water. Hitherto, the question of the mere surface of plate exposed to the flues had been alone considered; and the only remedy for defective generation of steam was conceived to be an increase of that surface. The conducting pins, however, were found to absorb the heating gases in their progress along the plates of the boiler, and greatly to hasten the generation of steam. A pin of half an inch in diameter, projecting three inches into the flue, gave a heating surface of four and a half inches, and by its conducting power and interior projection (as we understood the speaker) that half inch gave as much heat as nine half inches on the outer surface of the plate. Air was a good conveyor, but a bad conductor, of heat; for it carried most of it out of the chimney. His object was to arrest the heat in its progress, and give it out at the right place. The current of heat passing along the plates of the boiler rendered them only transverse conductors, but the heated pins were longitudinal conductors. He (Mr. Williams) also showed several iron pins that had long been experimentally used in the boiler of a steam-vessel with great success. He had endeavoured to ascertain the proper lengths of which they should be, so as to remain as durable conductors of heat. One of seven inches in length had become slightly oxidized at the end. Another, of four inches long, had become so little affected, that the smallest mark of the hammer, which it originally bore, was distinctly visible. He, therefore, considered about four inches to be the proper length. He further illustrated his invention by three evaporating pans, one of them with pins projecting into the boiler, and also into the flues, which he called double conductors; another with pins projecting into the flue only, called single conductors; and the third, a plain boiler, on the usual plan, without any such conductor. The first he had used the more powerful in producing speedy evaporation; though the second was scarcely inferior. The third, or plain boiler, was greatly behind either in evaporating power. A gas lamp was affixed at one end of the double conducting pan, containing 30 lbs. of water, and the evaporation appeared to be rapid. With thirty feet of gas the evaporation was as follows:—

Common pan	Evaporation	Waste heat
4 lbs. 14 oz.	400	
Single conductors	7 13	320
Double ditto	8 5	284

Here we see the quantity evaporated is in an inverse ratio to the waste heat by the chimney. He had tried them often with precisely the same results, so that there could be no error.

So then combined, in a clear and comprehensive manner, an opinion expressed by Dr. Fyfe, of Scotland, in a tract published by him, that anthracite was the best fuel or coal for engine-boilers. That opinion was founded solely on the fact that anthracite contained the greatest quantity of fixed carbon, or, in other words, left the greatest residue of coke. He differed from the deduction of the doctor, with whom he had corresponded on the subject. That gentleman had begun at the wrong end; he should have considered not the fuel alone but the vessel in which it was consumed. He (Dr. Fyfe) had taken no means to ascertain the quantity of heat that escaped in the gases or by the chimney. He had set down the hydrogen at night, because he had not had the power of consuming it by the common furnace and boiler. He (Mr. W.) felt certain that the Scotch and English coal was superior, if properly employed.

Mr. Williams's communication was listened to with great attention, and he was frequently greeted by bursts of applause. Shortly before he concluded, Mr. Durness, engineer of the Liverpool and Manchester Railway, stated that he had tried the pins on the lecturer's principle in the boiler of one of his stationary engines with great success. He had only 100 pins driven into the boiler, and the steam, which could not before be kept up, was now abundant. The CHAIRMAN then invited discussion on the subject, and some doubts were expressed and questions put as to the advantages of the invention, all of which were ably replied to by Mr. Williams, and ended in the complimentary acknowledgment of all who demurred, and the concurrence of all who were present, that the invention constituted a valuable and immense practical improvement in the construction of engine-boilers.

ON THE CAUSE OF EXPLOSIONS IN BLAST-FURNACES.

A small work has been lately published in France by M. Sauvage, mining engineer, on the cause of the explosions which have taken place, from time to time, in the blast-furnaces of the department of Ardennes. The following is the explanation given by the author of the origin of these disasters:—"I am led to believe that the principal cause of these accidents is to be found in the use of torrefied wood. The explosions to which I have alluded, in fact, took place during an irregular draft in the furnace, and in every instance they were preceded by falls of ore and sudden descents in the charge. Under these circumstances a large proportion of combustible matter can, and, indeed, must have to be consumed at the point where the temperature is highest, and previous to being completely carbonized; it may even do so when almost uncarried. When it comes to the blast it is speedily submitted to a considerable degree of heat; its decomposition is rapidly effected, and a large quantity of inflammable gas is in a short time generated. The gas may accumulate in the vacant spaces between the matters that fill the furnace—spaces which incessantly exist at the moment when the working of the furnace is irregular, or the falls are frequent. The gas is generated at a little distance above the mouth of the bellows; sometimes even before the fuel has obtained a very high temperature. It is, at the same time, compressed by the weight of the descending materials. It is then supposed to unite itself with the oxygen in the atmosphere, since it exists in a part of the apparatus where this oxygen is not as yet exhausted; from these causes result explosion, expansive force, propulsion of matters from the furnace, either through the chimney or the furnace door, according as the resistance happens to be greater at one side than the other. This explanation is the first that naturally presents itself to the mind. In the meanwhile it cannot be pretended that it is not open to many reasonable objections. It is difficult, for

instance, to suppose that an explosion can take place otherwise than by a spontaneous combustion of a mixture already formed of oxygen and combustible gas. Now that is not the case in the furnaces of which I speak. On the other hand; if this explanation be well founded, the explosion must of necessity be instantaneous; whilst on the contrary, it has been noticed, that the propulsion of matters through the furnace mouth may last for several minutes. The following appears to be a more satisfactory explanation of the phenomena observed. It is admitted, as I have stated above, that the wood arrives almost in a fresh state at a part which is heated to a high degree, and that the gas gets confined in the cavities which are formed in blast-furnaces, especially when they are applied to the burning of fusible ores in small pieces. The tension of gas or steam, which is produced by the distillation of wood, increases progressively, and there occurs a period when it is sufficient to cause the explosion like a bomb-shell, of the crust of the matters half fluid, half solid, which oppose an obstacle to it. This affords us a satisfactory explanation of the circumstances attending the accident; it is easy to conceive why the projectiles are expelled sometimes through the mouth of the furnace, sometimes through the door; why explosion is not instantaneous, and why successive detonations are heard. A similar effect is produced by the air-gun. As to the hot-blast, it is evident that in these circumstances it performs but an indirect and entirely secondary part. A hot-blast apparatus, which does not work with regularity, and which gives varied degrees of heat to the air which enters the furnace, would contribute in a powerful degree to produce derangements in the action of the furnace, to cause falls of ore and rapid descents of uncarbonised wood, to occasion agglomerations, and render more frequent the creation and explosion of gas. On the whole, fuel which burns with flame appears to be the principal cause of these accidents; and this opinion is confirmed by the experiments that have been made to effect the fusion of ores with coals in their natural state. It appears that in these attempts frequent explosions, and a throwing out of matters from the furnace, have taken place. Let it not be forgotten, in relation to this, that the employment of dry or torrefied wood has rendered more frequent the fall of the ore, at least I have so remarked it in the furnaces of the department of Ardennes. It is, besides, evident that all the circumstances, of whatever nature they may be, that have a tendency to render the draught of the furnace irregular, will contribute to produce these accidents; and it is in the same manner that hot air badly applied will sometimes act. The consequence, that we are to deduce from the preceding facts, is not certainly that we should abandon the employment of wood, and still less that of hot air. We ought not to forget that the things which are most esteemed present at times their weak sides, and afford room for abuse. As well might we think of abandoning steam navigation because a few boilers have burst, or forbid the extraction of coal from the earth because hydrogen gas has occasioned frightful accidents in mines, or content ourselves with ordinary roads, because a railway train may have been thrown from the rails, or come in collision with another. On the other hand, there are many furnaces which work admirably with torrefied wood and the hot-blast. Since the cause of the evil is found to be in the irregular action of the melting apparatus, we must only endeavour to render its working more uniform and perfect; but to effect this there will be much to do. For the rest I can only give some general instructions. More care must be taken than is generally adopted in the composition of the charge of the blast furnace. The fuel must be supplied each time in equal quantities, and prepared on a uniform system; the ore must be of equal richness and fusibility, and have undergone the same degree of roasting; the bellows should be perfectly regulated, the same quantity of air at the same pressure, and the same temperature must be every moment introduced; and it is important to modify the hot-blast apparatus when it does not produce a uniform temperature, or very nearly so. If it be found, also, that wood simply dried causes frequent falls of the ore, it would be advisable to bring it to a state of more advanced torrefaction.

PROGRESS OF JOINT-STOCK BANKING IN IRELAND.

A numerous and influential meeting of noblemen and gentlemen took place at Belton's Hotel, Dublin, on Tuesday, the 2d inst., the Earl of Mountestroll in the chair, at which the prospectus for establishing a new joint-stock bank in Ireland was considered, and various resolutions adopted for the purpose of carrying the same into effect. The nominal capital is stated at 1,000,000, in shares of 500, each, in series of 10,000 each; the deposit 100 per share, and not more than 250, to be called up in the first two years, payable by instalments of 5 per cent., at intervals of not less than three months. The management is to be confided to one board of directors, acting both in London and Dublin. By uniting the direction, it is expected that an important saving will be effected. The name of the concern is to be the London and Dublin Joint-Stock Bank. It is not to be a bank of issue, consequently not exposed to runs or panics, and they will not require to keep so large a stock of gold at their branches.

Some of the statements relative to banking in Ireland, made at the meeting, were important. It appears that the Provincial Bank of Ireland, established in 1825, pays 8 per cent., besides having given two bonuses to its proprietors; its shares of 250, now sell at 450. The Northern Banking Company pays 10 per cent., and its original shares of 250, now sell for 600. The Belfast Banking Company divides 8 per cent., and their shares of 250, now sell for 370, 10s.

England, with a population of 16,000,000, has 650 private and joint-stock banks; Ireland, with a population of 8,250,000, and a far superior soil, with equal local advantages, has only about 160, including branches. It appears that the deposits of the Provincial Bank of Ireland amount to 3,000,000, and that within the last fourteen years no less a sum than 700,000, had been sent from Ireland to England in old guineas. It was stated that the population of Scotland, by the last census, was 2,624,386; her national banking capital, 20,925,000; the paid-up capital, 8,606,000; and the deposits, 30,000,000; while the banking capital of Ireland, according to the best data, was about 9,500,000, and her paid-up banking capital not above 5,000,000.

IMPORTATION OF COAL INTO FRANCE.—The French Customs have just published a report on French trade, from which we learn that the importation of English coal into France, which in 1835 was only 71,000 tons, increased in 1910 to 325,000 tons.

IMMENSE IRON CASTING.—On the 25th ult., there was cast in the Atlas Foundry of Messrs. Dixon and Co., at Amsterdam, the main piece of the iron swing-bridge, which is to be thrown over the Squerre, to allow of the Amsterdam and Rotterdam Railroad traversing that river. The casting was perfectly successful, and it forms the largest piece of iron ever made in this way in a single mould. The length is 78 ft. 8 in., and the weight nearly fourteen tons. The melting of the metal began at nine in the morning, and the furnace was tapped at three in the afternoon.—*Handelblad.*

WOOD PAVING.—In a lecture on wood paving, delivered at the South-west Literary Institution, on Wednesday evening, by Mr. Lee Stevens, it was stated that this novel mode of forming the surfaces of carriage-ways had already mentioned great increase in the business of those shopkeepers who are located where the system has been adopted; that the value of such house property has been considerably improved; that the quantity of mud collected upon wood paving by the washers, that in Oxford-street, for instance, is barely one-fourth of that previously removed from the same place, the principal part (80 out of 100) of which is brought upon the wood from adjoining pavings; that the fracture of gas and water pipes under the best system of wood paving bear a proportion of scarcely one-sixth to those previously occurring; and that recent improvements in growing the surfaces of the blocks, as exhibited at St. Paul's Church-yard, Holborn, and Regent-street, have obtained all objections on the score of salubrity. Among other statistical data, the lecturer produced lists of the quantities laid down, and the prices charged, furnished by the respective parties, from which it appears that Mr. Stodd has 8210 square yards, superficial measurement, in various parts of London; the Metropolitan Company, 18,094; Mr. Carr, 1750; Mr. Giddeman, 650; and Mr. Rankin, 12—making together 28,216 yards.

THE DEAD SEA.—At the meeting of the Royal Geographical Society, on Monday last, a letter was read from the late Sir David Wilkie, containing the results of his barometric observations to determine the level and depression of the Dead Sea, being the last, if not the only, scientific labour of that celebrated man. No barometer had ever before been carried to the Dead Sea, and the observations of Sir David Wilkie showed a depression of 1139, 76 feet below the Mediterranean, and the elevation of Jerusalem as 2252 feet above the latter, points to which previous observations had nearly approximated.

MINING CORRESPONDENCE.

ENGLISH MINES.

HOLMBUSH MINING COMPANY.

Nov. 8.—I beg leave to inform you that Hiltchins's shaft is communicated to the sixty-two fathom level rise. The lode in the 110 fathom level west is still about one foot wide, and worth 60, per fathom. The lode in the 100 fathom level, west of Wall's shaft, is one foot wide, and worth 150, per fathom. The lode in the eastern stope, in the back of this level, is twenty inches wide, and worth 450, per fathom. In the western stope, in back of ditto, the lode is still about eighteen inches wide, and worth 300, per fathom. The lode in the ninety fathom level west is ten inches wide, and worth 120, per fathom. The lode in the eastern stope, in the back of this level, is eighteen inches wide, and worth 230, per fathom. The lode in the western stope, in back of ditto, is sixteen inches wide, and worth 250, per fathom. In the eighty fathom level, east of Wall's shaft, the lode is ten inches wide, composed chiefly of capel and spar. The lode in the eastern wing, sinking below this level, on the south branch, is four inches wide, and worth 60, per fathom. The western wing, sinking below this level, is still in a rich course of ore, the lode being eighteen inches wide, and worth 300, per fathom. The lode in the stope, in the back of ditto, is two feet wide, and worth 380, per fathom. The sixty-two fathom level rise, against Bray's shaft, is still progressing in favourable ground; other tuskwork bargains in the mine are much as last reported. The tribute pitches, upon the whole, are still looking favourable.

F. PHILLIPS.

TAMAR SILVER-LEAD MINING COMPANY.

Nov. 1.—In the 125 fathom level the lode is two feet wide, composed of capel, spar, and a small quantity of ore. In the 115 fathom level the lode is three feet wide, producing some promising work. In the 105 fathom level the lode is two feet wide, composed of capel, mundie, and silver-lead ore—a promising level. In the ninety-five fathom level the lode is one foot wide, producing some ore. In the eighty-five fathom level the lode is three feet wide, intermixed with rich branches of ore. In the seventy-five fathom level the lode is one foot wide, carrying a small leader of ore. In the sixty-five fathom level the lode is eighteen inches wide, carrying branches of silver-lead ores. In the forty-five fathom level the lode is nearly two feet in width, producing some very promising ores.

J. SPRAGUE.

TREGOLLAN MINING COMPANY.

Nov. 8.—I beg to inform you that the lode in the forty fathom level is large, and composed of capel, mundie, peach, and a small portion of ore; the ground during the past week has been much harder than usual, which has rather impeded our progress in driving; this end is now nearly under the winze that has been sunk 7 fms. 17 ft. below the thirty fathom level, which was suspended on account of water; we hope, however, shortly to be able to hole it, by rising against it from the forty fathom level, and when this is accomplished we shall be able to set some tribute pitches at that level. The lode in the thirty fathom level is also large, and chiefly composed of gossan, which is at present poor, but we hope it will again improve as we advance, there being a very kindly lode in the twenty fathom level, about fifteen fathoms beyond this end, composed of gossan and mundie, with stones of ore, which probably will prove productive at the deeper levels. In consequence of the thirty fathom level west continuing unproductive, we have thought proper to abandon it. Having extended a few fathoms on the north lode, at the adit level, in our easterly direction, and finding it to be of an encouraging description, and was producing good stones of ore, we think it will also warrant our opening a few fathoms westward on the same lode, and have accordingly taken the men (two) from the former place to open in the latter direction, where we find the lode to be about a foot wide, and chiefly composed of gossan, peach, and mundie, with spots of ore. We have sampled to day at par computed several tons of ore, the produce of our month. Our tribute pitches are looking much as usual.

J. NIXON.

P.S.—The cause of my mentioning the lode to be large at the thirty and forty fathom levels, and not stating the width, is owing to the lode generally being seven or eight feet wide—consequently, we cannot carry the whole of it in driving, and we only know the exact width of it where we occasionally cut through it.

J. N.

WEST WHEAL JEWELL MINING ASSOCIATION.

Nov. 8.—The ground in Buckingham's engine shaft is favourable for sinking. The fifty-seven east, on the south branch, is worth 70, per fathom. The rise, in the fifty-seven east, on Wheal Jewell level, is worth 100, per fathom; and the stope, in the back, are worth 200, per fathom. The fifty-seven west, on this lode, is worth 50, per fathom. At the fifty-seven south of south adit shaft we have cut the new lode, eighteen inches wide, prism, spar, and gossan, with rich work for tin. In the thirty west, on Toicorne lode, we are driving to cut the lode on the other side of the cross-course. The twelve west, on this lode, is worth 60, per fathom.

S. LEAN.

TRELEGON CONSOLS MINING COMPANY.

Nov. 6.—Christie engine-shaft, under the seventy fathom level, is going down in good ground, but the lode has not been taken down since my last. The seventy west continues in disordered ground; this level east, the lode is eighteen inches wide, with stones of ore. The sixty west continues good, the lode two feet wide, and worth 250, to 300, per fathom. The fifty fathom level is also good, the lode four feet wide, and worth 500, to 600, per fathom. The fifty east (set on tribute) continues to look well going up. Good Fortune shaft, sinking under the forty-four fathom level, is in ore ground; lode about two feet wide, and worth 150, per fathom. At the forty-four east the lode is eighteen inches wide, and worth 80, per fathom; the forty-four west is also ore, and worth 60, per fathom. The tribute department throughout the concern is looking well; the men are working regularly, and getting wages in their respective proportions.

W. SINCOCK.

TRETOIL MINING COMPANY.

Nov. 8.—The lode in the forty fathom level, east of engine-shaft, is nine inches wide—tribute ground. The lode in the forty fathom level, west of engine shaft, is one foot wide, and producing some ore. The lode in the rise, in the back of the thirty fathom level, east of Williams's shaft, is eighteen inches wide, and very good tribute ground. John's lode, in the rise in the back of the twenty fathom level, west of John's shaft, is six inches wide—tribute ground. Tregella's lode, at the same level, is one foot wide, and producing some ore. The Mine Park lode, at the adit level, east of Moore's shaft, is twelve feet wide, and very good tribute ground for tin. We have not yet cut the south wall of the lode. H. WILLIAMS. J. MORCOM.

REDMOOR CONSOLIDATED MINING COMPANY.

Nov. 8.—Driving east, at the sixty fathom level cross-cut, we find the ground to be still improving for driving; we have driven 7 fms. 1 ft. from the shaft going north and south on the lead lode. At the fifty fathom we have two promising ends; the lode in the south end is six inches, good work; north it is from eight to ten inches big, with some branches of rich ore. At the forty fathom level, going south, the lode is eight inches wide, with spar and Butean, but at present unproductive. The lode in the north end, at this level, is split into two branches, each about four inches wide, leady. At the thirty fathom level west, on the middle copper level, the ground is favourable for driving, lode eighteen inches, composed of capel, spar, mundie, and stones of copper ore. The eastern end, at this level, is suspended, and the men put with those in the western end. At Harl-down we are still driving north in search of the lode west of the cross-cut; the lode going east is much as usual. The tribute department is looking somewhat favourable.

F. R. ROWE.

UNITED HILLS MINING COMPANY.

Nov. 6.—In sinking Williams's shaft, the lode is five feet wide, with stones of ore. Sixty Fathom Level, east of Williams's Shaft—Lode three and a half feet wide, one foot on the north part producing good ore. Sixty Fathom Level, west of ditto—Lode four feet six inches wide, and coarse in quality. Fifty Fathom Level, east of Eastern Shaft—Lode four feet six inches wide, two and a half feet good ore. Fifty Fathom Level, west of Diagonal Shaft—Lode four feet wide, very throughout, but not rich. In sinking diagonal shaft the lode is three feet six inches wide, and producing but little ore. Forty-six Fathom Level, east of Turton's Shaft—Lode three feet wide, and producing some stones of ore on the south part. Forty-six Fathom Level, west of ditto—Lode four feet wide, but poor. Forty Fathom Level, east of Eastern Shaft—Lode two feet wide, with some ore, but chiefly composed of mundie. In stopping bottom of ditto, the lode is two feet six inches wide, eighteen inches good ore. Cross cut, north of James's Shaft—No lode cut as yet in driving north. Sinking James's Shaft—Lode three feet six inches wide, ore throughout, but of low quality. Thirty Fathom Level, east of Eastern Shaft—Lode three feet wide, two feet ore, of average quality. Twenty Fathom Level, east of Eastern Shaft—Lode three and a half feet wide, and producing but a small quantity of ore. Adit End, west of Clark's Shaft—Lode eighteen inches wide, producing some ore, with a promising appearance.

W. RICHARDS.

GREAT WHEAL CHARLOTTE MINING COMPANY.

Nov. 8.—I beg to hand you my report of this mine. We have suspended sinking our engine-shaft for the present, to cut a trip-pit at the eighty-two fathom level, which we hope to complete by the end of the month, when the sinking will be resumed. The lode in the eighty-two fathom level is six feet wide—at present rather poor; the lode in the same level east is large and good. The lode in the seventy-two fathom level west is large, and producing good stones of ore, and we hope shortly to meet with an improvement in this place. The lode in the stope, in the back of this level, is worth 150, per fathom. The lode in the stope, at the seventy-two fathom level, east of ditto, will produce four tons of ore per fathom, and worth 40, per ton. The lode in the seventy-two fathom level west, on the north part of the lode, is yielding four tons per fathom, and worth 50, per fathom. The lode in the winze, sinking under the said level east, is seven feet wide, and worth 200, per fath-

hom. The lode in the winze, in the same level west, is seven feet wide, and worth 250, per fathom. The stope to the west of Butean's winze, and I think, on the whole, are looking better for tin. We hope to deliver a parcel of tin on Thursday, the 18th inst., or on Saturday, the 20th inst.—perhaps on the latter day, as there is to be a meeting of the tin miners' committee at Penzance on the 18th. Our next sampling of copper ore will exceed the last.

S. TREKETHAN.

TINCROFT MINING COMPANY.

Nov. 9.—I have nothing very material to communicate to you at this time, only to say that we are getting on in all our operations very well, and I think, on the whole, are looking better for tin. We hope to deliver a parcel of tin on Thursday, the 18th inst., or on Saturday, the 20th inst.—perhaps on the latter day, as there is to be a meeting of the tin miners' committee at Penzance on the 18th. Our next sampling of copper ore will exceed the last.

W. PAUL.

ROSE-DOWN MINING COMPANY.

Oct. 27.—We find in driving west on the great copper lodes, that both the north and south courses are united so close together that there is only a hand-bore of capel between, of about two feet wide, which apparently forms a large mass of lode, of a considerable size. We find it will be expensive to open or drive immediately on this great lode (or lodes), I have therefore set a fathom to cut through the north capel in the present west end, in order to set into a softer course of granite ground, which appears to accompany the said lode, and carrying some small branches containing a little ore, &c. The mode now adopted I find is in accordance with Mr. Johnson's report, dated the 6th inst., a copy of which I was favoured with on the 23d inst. We have given 50, for the fathom, which we think will be sufficient to prove whether the strata of decomposed granite continues in a line westward or not. In the eastern end going east the lode is of a moderate size, the leader part about two feet wide, composed of spar, some gossan, a little black copper, and some mundie, accompanied in a congenial looking ground. The price we have given for two fathoms driving on the lode east is 30, 10s. The tin pitches are reset at 15s. and 13s. 4d. out of 10.

R. ROWE.

FOREIGN MINES.

COLOMBIAN MINING ASSOCIATION.

June 26.—SUIFA DISTRICT.—Cost.—That for May is as near as possible it could be brought to April cost, but having paid in May about \$500 for the rest of the cost contracted for, which will provide this establishment with candles till Sept. next, the total cost for May, I am very sorry to say, has come up as high as \$5300, when the returns for the same month are far less than in April, and which is entirely owing to the interruption of our underground operations, through the excessive wet weather, and not to the insufficiency or incapability of our mines.

Mining Department.—You will, with much interest, observe the particulars given of the cross-cut south from the north Gumburze level to intersect the North Saito main lode, of which I gave a hint in my last of the 20th ult.; in fact, this cross-cut, which at present has been extended about six feet, has already cut a very promising branch of half clean ore. The country about this place is so completely traversed by branches and lodes, that, indeed, it baffles us to ascertain, with any degree of certainty, which is which.

July 6.—The Mine.—There is no falling off in its general promising state; all we are at present suffering is the inconvenience of the expensive and large drumbo in the Cumba old workings, and which, I trust, will be completely secured by the end of this month, as nearly all take an active part in accomplishing this object, and I am in hopes that, even before the end of this month, some kind of ventilation will be established in the Cumba Aequila level, and the workings in its backs and bottoms, which are now completely filled with carbonic acid gas, in which no candle can burn. Not one ton of ore have been able to extract, during the past month, from this most productive part of the Cumba mine.

Escalotia Middle Level East End.—An excellent branch of ore, four feet wide, has been met with, and we are now on the eve of making the communication (so long looked for) with this end and the rise from deep Cruzada adit.

C. DEGENHARDT.

Mine Report for June.

Sources of Ore.—After we have penetrated through the Defiance drumbo, and re-established the ventilation between this and the Aequila level, we shall be able to recommence working all the ore stations in this quarter, and which, I hope, will be very soon. The lodes, in general, are of a promising nature, and I hope, no doubt, that we shall break for the remaining six months sufficient ore to complete the estimate.

Ore raised during the past six months amounts to 3679 tons from the different lodes.

1. Candado Lode.—Pouch's Level, West End.—After driving one fathom the lode came smaller, and is now only one foot, chiefly of caliche, mixed with small ores. The natives are yet employed to drive further west, under the mountain, on the main direction of the lode.

Pouch's Level, East End.—This end was recommenced, and, in driving east, the lode has opened out to four and a half feet of good ore. The mineral from this station is accumulated on the floor, and if the lode continues so promising eastward I would again recommend to erect stamps in this quarter. The trial made of the ore in abata looks well; at present the tuskworkmen are employed in rising, and I hope to effect soon a communication with Degenhardt's level. The rise is in a perpendicular line with the west end of this level. In my report for October, 1910, when this lode was cut, I stated the favourable direction of the mountain eastward, and I believed the lode would be more productive in this direction, which has now proved to be so, by driving the end east. It is necessary to commence a deeper adit, and, from the very favourable spot, as known to you long since.

Edwards's Extraction Level.—Eight fathoms one foot are driven and well secured with masonry to the end, but the country is so difficult for driving here, that this end has been suspended, and a party of natives is employed in driving east from Edwards's level to meet it. In five fathoms we shall effect the communication, and, after this, he able to drive Edwards's end further west, to lay open some more stope and take away others in the Cumba boundary.

Rising from Trevartha's and Sinking from the Hermenejido Levels.—The communication by rising and sinking, together two and a half fathoms from both stations, was effected, and makes a total height between both levels (on the underlay of the lode) 200 fathoms. Sink and rise, according to the marks given to John Chynoweth, have met perpendicularly, and is creditable to him, in having finished this troublesome work so well. The ground will be squared in July, and after this ladders shall be fixed in it. The stations here are well ventilated, and we can break away good ore from the Cumba.

Derumbo above the Defiance Level.—Two and a half fathoms of this difficult work is secured, and I trust to ventilate the higher stations in a few days. The water coming from the old workings above is still great, but the new part going through the stope, No. 19, which, during June, has yielded a good supply of clean ore, averaging seven and a half feet, and easy for breaking (\$11 per fathom), but the heat in this stope was very great.

Stope east of No. 3, and Stope between the 1st and 2d, Communications in Trevartha's Level have given likewise good ore; in the latter the lode is harder, but both containing ore of a good quality.

2. Cruzada Lode.—Fourth Winze to the Middle Escalotia.—In the south-east level we commenced sinking fourteen fathoms west of Chynoweth's shaft, and rising from the present end of the Escalotia middle level (fourteen fathoms east of the perpendicular winze), on the same lode; after sinking two and five-sixths, and raising four and one-sixth—bringing the total height to seven fathoms—the communication was made. By this means we have not only ventilated the middle level, but here we have laid open vast sources of ore, and now take away the stope.

No. 120.—The ore here is of a good quality, eighteen inches wide, and free for breaking. After the communication was effected the party was employed in stopping east and west of the communication.

Escalotia Middle Level, East End.—The lode has improved to two feet of clean ore.

North Saito, 2d Rise, is extended five fathoms. The ore is become smaller, but likewise very free for breaking; we shall soon effect the communication with old North Saito workings above.

Ore Raised.—May, 603 tons; June, 603 tons. W. DEGENHARDT.

Batucampo, Aug. 4.—PAMPONA DISTRICT.—Export Ore.—Having packed up 280 bags of mineral, I yesterday made a contract with the J. M. H. manager, of Giron, to convey this parcel from Rio Negro to Montevideo, at \$10 per bag—paying the baggage dues in the port of Concepcion. From Rio Negro to Rio Negro I expect to pay 10 or 12 rs. per bag, so the total cost of the ore will be about 12 rs. per bag—therefore, the ore will be sold at 10 rs. per bag, and the carrying will, therefore, be about 12 rs. per bag—this is freight in Montevideo, agency in Oceana, and duty in the port. We shall begin immediately to send off this parcel, and I hope that, before it is in the port, the traffic on the Magellan will be again open. This parcel weighs 31 tons 13 cwt. 3 lbs., and contains, by assay, 8000 ounces fine silver, 5000 ounces fine gold.

La Baga, Aug. 10.—Export Ore.—In consequence of troops still passing people are afraid to hire their mules, and no cargoes have yet gone off, but there is every hope that, in the course of a fortnight, this difficulty will be overcome.

The Miner has improved somewhat in the last few days. In the ten fathom level east the lode is looking better, and in the eighteen fathom east we have cut some water, and the appearance of the old leads us to expect that the lode is not far distant. The stope in the east bench are yielding a fair portion of best ore.

R. F. JONES.

Captain Patten's Mine Report for July.

Will's Back.—This is now ready to measure, &c., as soon as the ore, &c., is got out. The lode here has failed considerably, so that I am thinking to stop this place, and put the men in the east end of the lode under.

Slope under East.—This was measured on the 27th ult., and a new bargain for the same party at the same price, to commence first from the sink, and when they reach the cut where they left off they will take it with them; this will form a middle cut, or slope, in those bottoms. The lode here is pretty good, and consists of two branches; the north one is about eighteen inches wide; the south one is not so large—those come together in going east. The two men whom I put to take down the south branch, &c., have not yet finished, as they were employed most of the month in cutting into the south wall, that we might foot our timber firm, as the ground was weak for a considerable distance in that direction. They have been also employed in helping to timber. We have now got in a firm stall over this cut, and are filling it with deads as fast as we can, in order to keep the sides quiet, as there is a large stretch of ground here which had no support; this stall will keep it firm and secure as the level. The branch which we have taken down consists principally of quartz; in some places it has blende four inches wide, and in some scarcely any; it is, in all, near a foot wide. We shall now carry this with us in the cut below, as it is much nearer the north branch than it was up over.

Slope west of Sink.—This is still going on on their former bargain, as they are not yet ready to measure. The ground here is hard, but the lode looks good, and is large—in all from two to three feet wide, of which eight or ten inches are blende, mixed with fine lead, which is the same in appearance to the eye as the richest ore we raised formerly on this branch.

Ten East.—We have driven but four feet in this end during the past month. The ground is still hard, but it is dry, or nearly so; the lode much the same as when last reported—large, but coarse. I let another fathom for \$130.

Back over Ten East.—We are still rising up here. We took down the lode in the beginning of last month; it is from six to eight inches wide, but it is not solid. I have let a bargain at the old price, \$76 per fathom, to hole to the level, which, when done, we shall be able to stop away all the ground to the west that will pay for so doing.

Slope under Ten West.—I measured this on the 16th ult., and told the men to continue it a little longer at the same price, as the lode seemed to be improving in going down. We have three branches here; the middle one is about four inches wide, and pretty good; the south one is somewhat smaller; the north one is but small, and it is not so good as either of the others. I shall let them try a few days longer, to see if it improves or not.

Eighteen Fathom East.—We drove here 1 m. 2 ft. 11 in. during the past month, and there is no more lode come in. We shall bore into the north next week, to see if there is anything in that direction or not. I let another fathom for \$90, as the ground has got harder than it was. This end is still very dry.

MINING NOTICES.

[Under this head we purpose collecting such paragraphs as may appear in the provincial and other Journals, having reference to discoveries and improvements in mining operations at home and abroad. It is hardly necessary to observe, that we must not be considered to admit the correctness of the information conveyed, which, in too many instances, requires cautious investigation—the sanguine expectations of parties in some instances, and the want of honesty in others, throwing a degree of responsibility on a Journal in giving publicity to reports, which we do not intend taking upon ourselves.]

CWM AMMAN COAL COMPANY.—A correspondent informs us that this company have now got the "Big Vein" in excellent order. The vein is 5 ft. 11 in. The pit sink is to the bottom of vein 7½ fathoms. It was begun in March, 1846, and ended, or cut to the coal, on the 1st of November last. Five months the sinking was delayed by waiting, the lifting engine not being ready, and waiting the pit, &c. The sinkers have put in, as they went down, a good strong brattice, dividing the pit into two, one for raising the water, and the other for raising the materials. No accident of any consequence has happened to the men. The company have already got a 70-horse single-acting engine, ready for raising water as soon as the pumps are put in, which will be set about without delay; and speedily after shall be able to raise a large quantity of superior stone coal daily. They can work without any considerable expense four other stone coal veins by the same shaft, having 400 yards to rise of coal in each, and one a mile and a half in extent.—*Cambridge.*

GAVRIGAN MINE.—A correspondent informs us that a very rich lode of tin has been found in this mine, near the Indian Queens.—*Ibid.*

COAL IN AUSTRALIA.—We heartily congratulate our townsmen and fellow-colonists upon the now certain prospect that we can be supplied regularly with coal of superior quality from Lake Marquarie. The *Ann* has arrived here with the first cargo ever imported from that port.—*Sydney paper.*

MINE ACCIDENTS.

[From the Report of the Manchester Geological Society.]

The fearful loss of life that annually takes place in this country from the explosion of inflammable gases in coal mines, has been a subject which has forced itself on the serious consideration of the council. Although the adventurous miner, from the nature of his employment, in despite of all human care and foresight, must always be subject to some danger in working the mineral treasures which contribute so very largely to the prosperity of our country, still it is conceived that the dreadful catastrophes which so frequently occur may, with proper care, be greatly diminished. It is but too clear, that in many instances, a great sacrifice of valuable lives has originated either from the negligence of the owners and overlookers of mines, or from the carelessness and ignorance of the working miners themselves. To remedy the first cause, of course, is the province of the Legislature; this society can merely appeal to the humanity and interest of the proprietors. But the other causes alluded to they cannot but consider that it is their duty, if it be not in their power, to attempt to remove. To effect this desirable object, it is intended to endeavour to instruct the working miner in the nature and properties of the gases found in mines, the causes of their generation and accumulation, the places where danger is to be apprehended, the structure and principles of the different safety lamps, and the circumstances under which they are really safe or dangerous. For this purpose, in the latter end of last year, Mr. Francis Loomer, a member of the council, kindly volunteered to visit the different districts of our coal-field, and to deliver lectures to working colliers on the above topics. This gentleman merely required that he should be furnished with lamps, and that his personal expenses should be paid. This liberal offer was accepted, and 100. voted to provide lamps and apparatus. He was on the point of commencing his labours when the unfortunate disputes between the proprietors of collieries and their workmen relative to wages took place. These circumstances, it was considered, would materially affect the good to be derived from the projected lectures, and they were consequently postponed. These differences being now adjusted, the council trust that he will be able to carry into effect his laudable intentions during the ensuing winter.

North Tawm Mine.—On Saturday last a youth about eighteen years of age, named Davey, incautiously attempted to slide down a shaft in North Tawm Mine, St. Agnes, by the whim rope; he had, however, proceeded but a little way down, when he called to the whim boy to pull him up again; the boy moved round the whim as far as he thought necessary, and then went to the shaft to look for the young man, but he was not to be seen; search was immediately made for him, and he was found at the bottom quite dead.

Low Moor Company's Colliery.—On Saturday last, W. Sugden and John Fox, in the employ of the Low Moor Company, met an awful death at the pit near the Chapel House Inn, Low Moor; they were descending into the shaft early in the morning, when the rope broke and they were both precipitated to the bottom—a distance of about sixty or seventy yards; and what makes the circumstance more lamentable is, that there was no doubt they have been deliberately sacrificed, as it was immediately ascertained that the rope had been cut nearly through, and the part cut covered so as to prevent its being discovered. We sincerely trust the perpetrators of the horrid act may be discovered, and meet the punishment their conduct merits.

Hartshay Colliery.—One of the pits (the property of C. V. Hunter, Esq.) took fire yesterday week, and though every means possible were taken to extinguish the flames it is expected that considerable damage will be the consequence; several animals that were in the pit have fallen victims in the ravages of the fire.

Cranington Pit.—Three men were killed at this pit on Saturday week by the falling in of part of the roof.—[We regret to hear that the workmen have had occasion to make repeated complaints of a mistake notion of economy pursued by the superintendents, and to which they attribute the occurrence of such melancholy accidents.]

Restored from Mine.—On Monday, whilst the men were working, a portion of earth fell in, when Joseph Hill was so severely crushed that he died within two hours after he was taken out.

ORGANIC REMAINS.—An interesting discovery has recently been made in Mr. Brewer's quarry, in Bradford, Bos., of fossil bones, which were found in a cavern, seventy feet under the surface, and have the same appearance as the freestone, or calcite, but are much lighter; they are numerous, and amongst them the vertebrae are very distinct, and some large bones like legs, and a head, but there is nothing to indicate that they belong to any existing species. Nothing of the kind has ever before been found in the locality, nor in cutting the Bos tunnel, though specimens of vegetables and fish have been found in the inferior calcite, and the clay on which it was incumbent.

WORK PERFORMED BY STEAM-ENGINES,

IN OCTOBER, 1841.

Taken from the official duty paper of Mr. THOMAS LEAN, of Marazion, Cornwall, stands for single; d for double; in. for inches.

Mines.	Engines.	Stroke in cylinder.	No. of revs. per min.	Av. weight of water col.	Pounds lifted 1 foot high by a bush of coal.	Average quantity of water per min.
W. Darlington	Eastern 40 in. s	18.0	18.0	9.82	94 lbs.	66,691,197
Ditto	Western 40 in. s	18.0	18.0	9.82	112.5	49,417,912
Gr. W. Portman	G.W. Port. 40 in. s	18.0	18.0	9.82	112.5	49,417,912
Ditto	Wh. Port. 40 in. s	9.7	18.5	4.79	100.0	40,196,996
Ditto	T. Down 70 in. s	10.0	12.4	5.7	204.4	43,330,091
Ditto	Wh. Friends 70 in. s	10.0	12.4	5.7	204.4	43,330,091
Ditto	Owen V. 70 in. s	10.0	12.4	5.7	204.4	43,330,091
Ditto	Gwalton 30 in. s	6.0	14.0	4.65	114	33,493,998
Providence	30 in. s	6.0	14.0	4.65	114	33,493,998
Wheat Virgin	60 in. s	10.0	14.3	5.6	100.0	49,890,545
Relistian	60 in. s	9.0	13.7	4.84	100.0	44,131,555
Trevaskin	60 in. s	9.0	13.7	4.84	100.0	44,131,555
Duffield	80 in. s	10.0	10.0	7.5	210.0	48,677,831
Carlisle Cons.	70 in. s	10.0	10.0	7.5	210.0	48,677,831
Wheat Julia	80 in. s	10.0	10.0	7.5	210.0	48,677,831
Ding-dong	30 in. s	6.0	17.3	7.00	57.3	33,833,479
Levant	New 40 in. s	8.0	11.1	3.00	494	30,413,090
Botallack	30 in. s	6.0	10.0	6.0	370	27,263,926
Ballawidden	24 in. s	7.0	14.3	6.0	450	33,167,798
Godolphin	Sim's 80 in. s	10.0	11.9	6.0	204.4	71,155,974
Great Work	W. Range 60 in. s	9.0	8.5	4.23	130.0	36,090,709
Ditto	Leam's 60 in. s	9.0	14.0	6.10	190.0	79,090,709
Ditto	Borlase's 80 in. s	10.0	16.7	7.43	370.0	63,190,119
Ditto	Treaw's 80 in. s	10.0	16.0	5.9	370.0	60,538,686
Ditto	Wood's 50 in. s	9.0	16.0	7.0	314.0	40,473,809
Ditto	Penhale 45 in. s	9.0	13.7	6.3	130.0	41,090,434
Trewavas	45 in. s	9.0	13.0	7.0	290.0	34,616,882
Dunstanville	50 in. s	9.0	8.3	5.13	100.0	49,190,493
South Roskear	W. Chance 60 in. s	9.0	9.8	4.66	112.5	33,290,590
North Roskear	New eng. 70 in. s	10.0	9.8	4.66	112.5	33,290,590
E. W. Croft	Trevason 60 in. s	10.33	11.54	4.66	161.7	66,674,729
Ditto	Dunadance 30 in. s	6.0	13.9	—	—	—
Dolcoath	76 in. s	9.0	10.0	7.33	334.8	37,981,080
Wheat Jewel	29 in. s	8.5	13.0	5.34	91.0	30,781,280
Poldice	Sim's 90 in. s	10.0	7.14	5.34	304.3	41,145,445
W. U. Wood	Williams' 80 in. s	10.0	10.0	5.69	207.0	40,819,377
Hallenbeggie	Vice's 70 in. s	10.0	6.0	6.0	918	68,184,133
Ditto	Bowen's 60 in. s	10.0	11.13	6.03	140.0	36,784,441
W. Beauchamp	70 in. s	7.73	18.7	5.93	155.0	39,538,579
Ditto	Powling's 50 in. s	10.0	12.07	5.3	100.0	38,091,728
Wheat Ury	70 in. s	10.0	12.07	5.3	100.0	38,091,728
Carn Brea	70 in. s	9.0	14.23	5.5	216.0	63,538,029
Ditto	Sim's 50 in. c.c.e.	9.0	12.4	6.58	63	33,095,532
Tincroft	30 in. s	9.33	13.0	5.3	160.0	46,493,936
East Pool	60 in. s	9.73	7.49	4.55	70.0	39,000,979
S. W. Bassett	40 in. s	9.0	13.2	3.7	94.0	30,376,791
Consolidated	Taylor's 80 in. s	11.0	11.17	4.7	132.0	101,330,083
Ditto	Davey's 80 in. s	9.0	13.5	5.35	97.0	40,469,567
Ditto	Pease's 60 in. s	9.0	10.0	9.36	345	73,349,960
Ditto	Wood's 80 in. s	10.0	12.3	7.8	301.5	74,356,088
Ditto	Lawden's 90 in. s	10.0	13.7	6.7	383.0	66,336,910
Ditto	Job's 60 in. s	11.0	11.17	4.7	132.0	101,330,083
United Mines	Taylor's 80 in. s	9.0	13.5	5.35	97.0	40,469,567
Ditto	Cardono's 90 in. s	9.0	10.0	9.36	345	73,349,960
Ditto	Edon's 80 in. s	10.0	12.3	7.8	301.5	74,356,088
Ditto	Loam's 80 in. s	10.0	13.7	6.7	383.0	66,336,910
Ditto	Hocking's 80 in. s	10.0	7.33	6.4	89.0	44,645,796
Bisce Bridge	20 in. s	10.0	9.5	6.0	140.0	39,090,930
S. W. Towan	70 in. s	10.0	9.5	6.0	140.0	39,090,930
United Hills	Old 30 in. s	8.5	9.85	3.4	43.0	30,915,010
Ditto	Old 30 in. s	10.0	10.0	4.5	110.0	37,129,700
Pulberron	90 in. s	9.0	14.53	7.73	494	55,490,798
E. Wheat Rose	80 in. s	9.5	13.9	7.73	110.0	46,950,109
Charlestown U.	Union 40 in. s	9.5	16.0	—	—	—
W. F. Consols	Austen's 80 in. s	10.33	19.37	6.74	160.0	60,336,779
Fowey Consols	66 in. s	9.8	9.2	8.1	135.0	78,831,597
Polgroth	—	—	—	—	—	—

ENGINEERS' NAMES.

Wheat Darlington, Eustia; Trewavas, T. Tippet; Great Wheat Portman, Grose; Providence Mine, J. West; Wheat Virgin, Grose; Relistian Mine, —; Carlisle Consols, Grose; Ding-dong, Eustia; Levant, F. Mitchell; Botallack, J. Rowe; Ballawidden, Eustia; Godolphin, J. Sims; Great Work, Richards; Wheat Ury, Richards; South Roskear, J. West; North Roskear, J. West; East Wheat Croft, James Sims; Dolcoath, Jeffrey; Tincroft, J. West; W. Jewel, J. Sims; Poldice, J. Sims; Wheat Ury Wood, J. Sims; Wheat Beauchamp, Hocking and Loam; South Wheat Bassett, Dunkin; United Mines, Hocking and Loam; South Wheat Towan, J. West; United Hills, J. Sims; Charlestown United Mines, Darlington; W. Fowey Consols, W. West; Fowey Consols, W. West; Pulberron, J. Sims; Carn Brea, J. Sims; East Wheat Rose, Hocking and Loam; Hallenbeggie, J. Sims; Bisce Bridge, F. Mitchell; East Pool, J. West; Wheat Ury, Hocking and Loam; Pulberron, Hocking and Loam.

STEAM-ENGINES STAMPING ORES,

IN OCTOBER, 1841.

Mines.	Engines.	Stroke in cylin.	No. of revs. per min.	Av. weight of heads, lifters, and water col.	Consumption of coal per bush per hour.	Pounds lifted 1 foot high by a bush. of coal.
		Feet.		Lbs.	94 lbs.	
Ballawidden	26 in. s	8.0	9.0	10.00	131.0	66,676,493
Charlestown U.	32 in. s	9.0	6.0	10.00	530	44,392,857
Wheat Kitty	32 in. s	9.0	—	—	—	—
Carn Brea	32 in. s	9.0	21.7	27.45	79.0	63,538,119
Tincroft	30 in. s	9.0	4.0	10.347	98.0	48,775,951
A head Vor	30 in. s	10.0	8.0	6.608	99.0	71,928,566
W. Reeth Cons.	27 in. s	7.75	8.0	10.645	40.0	39,392,552

ENGINEERS' NAMES.

Ballawidden, Eustia; Charlestown United Mines, Darlington; Carn Brea, J. Sims; Tincroft, W. and J. West; Wheat Ury, Richards; W. Reeth Consols, Eustia.

WHIM-ENGINES DRAWING ORES,

IN OCTOBER, 1841.

Mines.	Engines.	Quantity of coal in bushels.	Av. No. of kilobars drawn from 100 lbs.	Av. weight of a kilobar in pounds (in round).	Pounds drawn one foot high by a bushel of coal.	Horse power drawn from 100 tons, by a bush. of coal.
United Mines ..	Taylor's....	390	10.00	700	16,500,555	69.1
Ditto	Michell's...	44	12.97	700	19,957,000	64.1
Ditto	Loam's.....	240	8.834	800	19,918,946	64.0
Ditto	Hocking's...	338	10.660	710	17,242,863	55.6
Charlestown U.M.	190	10.17	1400	16,339,310	66.1
Fowey Consols	Davey's.....	100	11.24	800	28,350,179	110.9
Wheat Towan	East White ..	377	14.02	900	3,444,807	13.1

ENGINEERS' NAMES.

United Mines, Hocking and Loam; Charlestown United Mines, —; Darlington; Fowey Consols, W. West; Wheat Towan, T. Tippet.

United Mines, Taylor's engine—the two lifts, 15 ft. 2 in. of 13 ft. 6 in. and 10 ft. 2 in. of 14 ft. 6 in. have each worked half the month; the duty has, therefore, been calculated on a load of 500 lbs. instead of 600 lbs. The boilers are leaky at Pulberron.

Reverts in the Report for September.—East Pool engine, for the load coal 3100 lbs. and for the work performed 54,443,516 lbs. lifted one foot high by consuming 94 lbs. of coal. United Hills old engine—stroke 1300 ft., duty 37,860,000.

*The number of pumping engines required for this month is fifty-two. They have consumed 510 tons of coal, and lifted 10,000,000 tons of water one foot high. The average duty of the whole is, therefore, 10,000,000 lbs. lifted one foot high by the consumption of a bush of coal.

Marazion, Nov. 9. THOMAS LEAN and SON.

NEW METHOD OF PATCHING BOILERS, WITHOUT STOPPING OUT ALL THE WATER.—At the defective part of the boiler a hole is cut out large enough to admit a T-headed screw, which is to be introduced diagonally into the boiler, with a piece of wire attached to the screw end; the wire is then to be passed through a hole in a washer made sufficiently large for the repair of the defect, and to be introduced diagonally through the hole; the wire being then drawn back, the screw-head brings the washer in contact with the boiler within; another washer is then put over the screw outside, and the whole secured by a nut—between both washers there is a composition of putty and white lead.—*J. Holman: Proceedings of the Royal Cornwall Polytechnic Society.*

COMMUNICATION BETWEEN NEWCASTLE AND GATEHEAD.—A company has been formed in Newcastle, with a capital of £60,000, in shares of 250. each, for the purpose of erecting a bridge, on a high level, from Gatehead to Newcastle. The bridge is to have stone piers and timber arching, and will be similar to that erected over the Ouseburn, for the Newcastle and North Shields Railway. Messrs. Green are the architects.

SILENT DIFFERENCE.—A St. Louis paper says, that the northern coal found lately in Missouri looks like coal, feels like coal, and smells like coal—all the difference is, that coal burns, but that will not.—*American paper.*

RAILWAYS IN FRANCE.—The following is the result of a comparison of the traffic on the railways of St. Germain and Versailles (vice versa) during the month of October this and last year:—

	Passengers.	Receipts.
Oct. 1841.	85,127	17,246.
St. Germain.	104,215	118,090.
Verailles.	190,440	238,006.
Oct. 1840.	83,777	92,357.
St. Germain.	109,041	95,758.
Verailles.	188,819	103,163.

The increase is slow but steady on both lines; taken conjointly the single month of October has produced an excess of 15,623 passengers, and 33,500.

RAILROAD BETWEEN DUBLIN AND CORK.—A meeting of the committee appointed in 1835 to aid in the promotion of the then contemplated railway communication between the metropolis and this city, took place on Thursday, at the Commercial-buildings, S. Lane, Esq., in the chair, when the project was revived, and a unanimous expression given of concurrence in the vast national advantages that would arise from the undertaking. It would appear, from what passed, that active measures are being taken to ensure the aid and countenance of Government in carrying out the provisions of a bill, making Limerick the terminus of the communication. All present appeared impressed with the feasibility and propriety of extending the railway to this city, and it was resolved to take up the matter promptly and with vigour. Anxious to engage the co-operation of the landed interest in furthering the project, a deputation was appointed to wait on the Earl of Bandon, who happened to be at the Imperial Hotel, en route to Castle Bernard. The noble lord received the deputation courteously, entered warmly into their views of the speculation, and intimated his willingness to preside at a public meeting of the landed and mercantile interests of county and city, to be held on Thursday, the 25th inst., in the City Court-house, and the deputation retired.—*Clark Reporter.*

IMPROVEMENTS IN THE MANUFACTURE OF GAS.—Some time since we published the particulars of several experiments in the manufacture of gas, conducted under the management of M. Von Marino, by which, it was said, a complete revolution would be effected in that branch of art; the inventor, it appears, has not benefited much by his ingenuity, as we find that he applied, on Saturday last, to be discharged from the Insolvent Debtors' Court. The plan of M. Marino (by which 1000 feet of gas could be procured for 2s. 6d., instead of 9s. or 10s. as now paid) we considered well worthy of application, but the opposition of the chartered companies prevented its being

MONEY MARKET AND CITY NEWS.

CURRENT PRICES OF ENGLISH AND FOREIGN FUNDS.

Consols, 2 1/2 per Cent., 104 1/2	Spanish, 5 per Cent., 104 1/2
Portuguese, 5 per Cent., 104 1/2	Colombian, 5 per Cent., 104 1/2
Peruvian, 5 per Cent., 104 1/2	Mexican, 5 per Cent., 104 1/2
Argentine, 5 per Cent., 104 1/2	Chilean, 5 per Cent., 104 1/2
Uruguayan, 5 per Cent., 104 1/2	Venezuelan, 5 per Cent., 104 1/2
Guatemalan, 5 per Cent., 104 1/2	Salvadoran, 5 per Cent., 104 1/2
Honduran, 5 per Cent., 104 1/2	Nicaraguan, 5 per Cent., 104 1/2
Costa Rican, 5 per Cent., 104 1/2	Panamanian, 5 per Cent., 104 1/2
Colombian, 5 per Cent., 104 1/2	Venezuelan, 5 per Cent., 104 1/2
Peruvian, 5 per Cent., 104 1/2	Chilean, 5 per Cent., 104 1/2
Uruguayan, 5 per Cent., 104 1/2	Venezuelan, 5 per Cent., 104 1/2
Guatemalan, 5 per Cent., 104 1/2	Salvadoran, 5 per Cent., 104 1/2
Honduran, 5 per Cent., 104 1/2	Nicaraguan, 5 per Cent., 104 1/2
Costa Rican, 5 per Cent., 104 1/2	Panamanian, 5 per Cent., 104 1/2

REMARKS ON THE OPERATIONS OF THE WEEK.

SATURDAY. Nov. 11.—The funds were much firmer, but the business done (principally purchases for investment) was but limited. Consols for Money closed at 104 1/2, for the Account, 104 1/2; Bank Stock, 104 1/2; and India Stock, 104 1/2. The foreign securities were steady, with scarcely a variation throughout the day. The share market was also steady, the only variation being in Brightons, which improved to 37 1/2 to 38 per share. —Australian Bank, 50; Union of Australia, 20.

MONDAY.—The national securities have again improved, which, however, may be attributed to the demand for stock occasioned by the unsettled state of the market for Exchequer Bills, capitalists being afraid of holding these securities under existing circumstances. Exchequer bills were done during the day at 11s. 10d., which is the first time the quotation has been given in the official list since the late improvement of the fraudulent transactions. —The foreign market remains without the least alteration. The share market was also in a very inactive state, Great Western improved to 80 to 4 — United Mexican Mining Association, new scrip, 14. — Union of Australia Bank, 20.

TUESDAY.—Business in the City was much neglected, and at the Stock Exchange but very little indeed was transacted—everything, in fact, gave way to a general expression of joy at the auspicious birth of a Prince of Wales, which, occurring on Lord Mayor's day, in itself a holiday of the first importance among the citizens, was read-read doubly so on the present occasion, the city throughout the day presenting a scene of unusual emotion and hilarity; the new Lord Mayor himself, decorated with the gold chain, and other insignia of office, looked happier and greater than the civic monarch usually do, seated in his gilded state coach, and attended by a more than usually gorgeous pageantry—the bands, too, reflecting, perhaps, on the mutability of all civil as well as human greatness, that all the vaunted glory and joy attendant on the commencement of the majority of the present deservingly popular representative of civic dignity, must so shortly have an end, and the high credit and honour of the city receive as sad a reversal, unless, indeed, the spirit of the lively be sufficiently aroused, to rescue the distinguished post from being occupied by the next on the rota, that arch hypocrite, Alderman Thomas Wood, of Talcott notoriety—ultimately closed at 104; Bank Stock, 104 1/2; India Stock, 104 1/2; and Exchequer Bills, 11s. 10d. — In foreign securities there was no change of importance; the transactions that did take place, however, slightly influenced the market in a downward tendency. —There was but little dealing in railway shares; Brightons advanced to 37 1/2; Great Western, 80; and Blackwells, 9 to 4 per share. —Imperial Brazilian Mining Association, 5; Colaba Copper, 30 1/2; and the shares of joint-stock banks were quoted as follows: Colonial Bank, 20; National Provincial of England, 24 1/2; Provincial of Ireland, 4; Union of Australia, 20; and ditto, new, 20.

There was a trifling alteration in the rates negotiated for bills on foreign places, those for Amsterdam and Paris being rather higher, while on Hamburg it was rather lower. —American, short, 12 1/2 to 1; Rotterdam, three months, 12 1/2 to 1; Hamburg, 12 1/2 to 1; and Paris, short, 30 to 40.

The premium on gold at Paris is 6 1/2 per mille, which, at the English Mint price of 15s. 17d. per ounce for standard gold, gives an exchange of 25s. 3d., and the exchange at Paris on London at short being 25s. 3d., it follows that gold is 0.26 per cent. dearer in London than in Paris.

By advices from Hamburg the price of gold is 428 per mark, which, at the English Mint price of 15s. 17d. per ounce for standard gold, gives an exchange of 15s. 6d., and the exchange at Hamburg on London at short being 15s. 7d., it follows that gold is 0.7 per cent. dearer in London than in Hamburg.

The course of exchange at New York on London is 110 per cent., and the par of exchange between England and America being 100 to 100 per cent., it follows that the exchange is 0.4 per cent. in favour of England. But the quoted exchange at New York being for bills at 100 days' sight, the interest must be added to the above difference.

WEDNESDAY.—Business has again resumed its regular appearance, the English funds, however, were not extensively dealt in, and prices may be taken at last quotations. —A good deal of general business was transacted in the foreign securities, which, however, do not bear very improved prices; Spanish closed up towards the close of business to 21 1/2 to 1, which was its latest value; Colombian stock and Dutch 5 per Cent. also improved a shade, and Belgian 10 to 1. —The share market was flat, and the business done confined to the leading lines. South West was rather higher, Great Western a trifle lower, and Brightons 37 1/2 to 38 per share. —Australian new Bank shares were quoted at 15 1/2, and the London Joint-Stock Bank at 12 1/2.

THURSDAY.—Dealings are becoming more free in Exchequer Bills, several transactions being reported during the day at the improved price of 11s. 10d. per 100; this return of confidence is satisfactory, as a continuation of the alarm and distrust that has hitherto existed must have proved a heavy discouragement to trade, by inducing bankers and capitalists to limit their operations and circulation, when deprived of the usual reserve of good Exchequer Bills to fall back upon in case of need, which were ever ready convertible into Bank of England notes or specie on the slightest notice. The stock markets were extremely quiet, and the value of money was not more than 3 per cent., at which price an abundance could be obtained for general purposes. —The foreign funds were a shade lower, and business somewhat restricted; neither were the transactions in shares extensive. —Brightons receded to 37 1/2, but the other lines remain without alteration. —London Joint-Stock Bank, 12 1/2.

FRIDAY.—The funds continue in a quiet state, the amount of business transacted being very limited, and prices remaining without alteration. —In the foreign market little else took place than the preparation necessary for the settlement of last account, and money was easily obtained on advantageous terms by borrowers. —Business was also slack in shares of all descriptions, and with the exception of Blackwells, which are a shade lower, may be taken at last quotations. —Australian Bank shares were done at 15 1/2 to 1, and London and Westminster at 24 1/2 to 1.

A good deal of business was transacted in the foreign exchange in the afternoon. The rate on Paris and the rate on Hamburg are considered the same as last post, but the rate on Amsterdam a shade heavier. Frankfurt and Trieste were further higher, and bills upon Naples and Sicily were in demand. Amsterdam, short, 12 1/2 to 1; ditto, three months, 12 1/2 to 1; Rotterdam, 12 1/2 to 1; Hamburg, 12 1/2 to 1; and Paris, short, 30 to 40.

The number of Exchequer Bills which, up to Thursday, had been received, examined, and stamped as authentic, and released to parties, was 25,719, and their value 15,085,000.

We regret to learn, that the finances of the City of Brussels are in an dilapidated state, that, in most of its wants, it has made a contract with the Government for the sale of its museums and other property, which is to be laid before the chambers for sanction.

BANK OF ENGLAND.—Quarterly Average of the Weekly Liabilities and Assets from the 17th of August to the 9th of November, 1841, both inclusive.

LIABILITIES.	ASSETS.
Circulation, £17,872,000	Reserves, £73,197,000
Deposits, 7,000,000	Bullion, 4,910,000
£24,872,000	£78,107,000

BANK OF ENGLAND.—TRANSFER BOOKS.

1841 (35), Friday, — have had a buoyant market, almost new, and some new done at the advanced prices, but to day shares are more freely offered, at lower prices—Great Western Railway, 79, to 80; halves, 42, to 44; a. 44, to 45; Bristol and Exeter, 55, to 56; Bristol and Gloucester, 11, to 12; Birmingham and Gloucester, 10, to 11; Chesham Union, 55, to 56; Vale, 54, to 55; Bristol Gas Company, 25.	1842 Friday to
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